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No. _____

IN THE

Supreme Court of the United States

FINISAR CORPORATION,

Petitioner,

v.

THE DIRECTV GROUP, INC., DIRECTV HOLDINGS LLC, DIRECTV ENTERPRISES LLC, DIRECTV OPERATIONS LLC, HUGHES NETWORK SYSTEMS, INC., AND DIRECTV, INC.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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October 3, 2008

QUESTION PRESENTED

35 U.S.C. § 112, paragraph 2 requires a patent to have a specification that "conclude[s] with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." Paragraph six of that statute explicitly allows language in such claims to "be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof," and then requires such language to be "construed to cover the corresponding structure, material, or acts described in the specification...." Paragraph one requires the specification to "contain a written description of the invention, and the manner and process of making and using it, in such...terms as to enable any person skilled in the art to which it pertains...to make and use the same...." The question presented is:

> When a patent claim refers to a "means" for performing a function and the patent specification discloses that the "structure" for carrying out that function is a computer, should the plain language of 35 U.S.C. § 112, paragraph 6 require the claim to be construed to cover a computer performing that function, or should a special judicially-created rule for computer-implemented functions hold all such claims invalid unless the patent specification further discloses a specific "algorithm" for carrying out that function, even when such an algorithm could be easily implemented by a "person skilled in the art"?

CORPORATE DISCLOSURE STATEMENT

Petitioner Finisar Corporation ("Finisar") has no parent corporation, and no other publicly held company owns more than 10% of its stock.

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PETITION FOR A WRIT OF CERTIORARI

Finisar Corporation hereby respectfully petitions this Court to issue a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The opinion accompanying the judgment for which review is sought is reported at *Finisar Corp. v. DIRECTV Group, Inc.*, 523 F.3d 1323 (Fed. Cir. 2008), which affirms the district court's grant of summary judgment that certain claims of Finisar's U.S. Patent No. 5,404,505 ("the '505 patent") are invalid for indefiniteness. The Federal Circuit's opinion is reproduced in the Petition Appendix at pages 1a-38a. The Federal Circuit's May 29, 2008 order denying rehearing and rehearing *en banc* is unreported and is reproduced at pages 70a-71a. The February 17, 2006 opinion of the United States District Court for the Eastern District of Texas construing the claims of the '505 patent and concluding that the claims at issue are indefinite is reported at 416 F.Supp.2d 512 and is reproduced at pages 39a-65a. The district court's May 2, 2006 order granting summary judgment of invalidity for the claims at issue is unreported and is reproduced at pages 66a-69a.

JURISDICTIONAL STATEMENT

The United States Court of Appeals for the Federal Circuit entered its judgment and opinion on

April 18, 2008, and denied Finisar's timely combined petition for rehearing and rehearing *en banc* on May 29, 2008. On August 19, 2008, Chief Justice Roberts extended the time to file a petition for a writ of certiorari to September 26, 2008, and on September 16, 2008, Chief Justice Roberts further extended the time to file a petition to October 17, 2008. Application No. 08A144. This Court has jurisdiction over this matter pursuant to 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS

35 U.S.C. § 112, entitled "Specification," provides in pertinent part:

> [¶1] The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> [¶2] The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
>
> *******
>
> [¶6] An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall

be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

STATEMENT OF THE CASE

1. 35 U.S.C. § 112 requires a patent to have a "specification." Pursuant to section 112, paragraph 1, the specification must first include "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains...to make and use the same." Paragraph 2 then requires the specification to conclude "with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." The scope of the patent right depends on the breadth of the language used in the patent's claims. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996).

A claim's scope, in turn, determines whether the claim is infringed and/or invalid. Generally speaking, if a patent claim is so broad as to cover what has already been done or disclosed (*i.e.*, so broad as to cover "the prior art"), it is invalid for lack of novelty. *See* 35 U.S.C. § 102; *Smith v. Hall*, 301 U.S. 216 (1937); *Titanium Metals Corp. v. Banner*, 778 F.2d 775 (Fed. Cir. 1985). Or, if a patent claim is so broad as to cover obvious modifications to the prior art, the claim is invalid for obviousness. 35 U.S.C. § 103(a); *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 127 S.Ct. 1727 (2008). If a patent claim requires a broadly specified element but the

specification does not provide sufficient disclosure for an ordinarily skilled artisan to implement the full scope of that element without undue experimentation, then the specification fails to meet the requirements of section 112, paragraph 1 and the claim is said to be invalid for lack of enablement. *See Webster Loom Co. v. Higgins*, 105 U.S. 580, 582-92 (1881); *Ives v. Hamilton*, 92 U.S. 426, 431-32 (1875); *National Recovery Technologies, Inc. v. Magnetic Separation Systems, Inc.*, 166 F.3d 1190 (Fed. Cir. 1999). And, finally, if a patent claim is so vague that it is "insolubly ambiguous," it is invalid for failure to meet the requirement of section 112, paragraph 2 to "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention" and is said to be invalid for "indefiniteness." *Exxon Research & Engineering Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). Of course, "breadth is not to be equated with indefiniteness." *In re Miller*, 441 F.2d 689, 693 (CCPA 1971).

Section 112, paragraph 6 allows language in claims to be in a certain format, commonly called "means-plus-function format." Specifically, paragraph 6 states that language in claims "may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof." As this Court explained in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 27 (1997), "under this... provision, an applicant can describe an element of his invention by the result accomplished or the function served, rather than describing the item or element to be used (*e.g.*, 'a means of connecting Part A to Part B,' rather than 'a two-penny nail')." When

such means-plus-function language is used, paragraph 6 further requires that the claim language be "construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." If the specification does not disclose *any* structure for performing the required function, then the claim cannot be construed as paragraph 6 requires and the claim is therefore held invalid for indefiniteness. *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc).

Thus, to expand on the Court's example in *Warner-Jenkinson*, if a claim used language requiring "a means of connecting Part A to Part B," and if the specification disclosed "a two-penny nail" as a structure that could be used to connect Part A to Part B, then the claim language would be construed to cover "a two-penny nail and equivalents thereof." Alternatively, if the specification more generically disclosed that "a nail"—rather than "a two-penny nail"—could be used to connect Part A to Part B, then the claim language would be construed more broadly to cover "a nail and equivalents thereof." If the specification did not disclose *any* structure for connecting Part A to Part B, then the claim language could not be construed as paragraph 6 requires, and hence the claim would be invalid for indefiniteness.

2. Finisar is the owner of U.S. Patent No. 5,404,505 ("the '505 patent"). Claim 1 of the '505 patent covers "[a]n information transmission system" comprising several elements in combination. One of these elements is expressed in means-plus-function language. Specifically, claim 1 requires "database editing means...for generating a hierarchically arranged set of indices for referencing data in [an]

information database...and for embedding said indices in said information database." Pet. App. 35a. As the district court explained, the "indices" described in the '505 patent specification are simply "pieces of digital information...used to refer to specific items of information within the database." Pet. App. 46a-48a. Claim 37 has identical means-plus-function language as claim 1 except that it does not require "hierarchical" indices.

The '505 patent specification discloses a structure for performing the "generating" and "embedding" functions. Referring to Figure 1 of the patent, the specification states: "[S]oftware 132 (executed by CPU 130) generates a hierarchical set of indices referencing all of the data in the information database 112 and embeds those indices in the information database." Pet. App. 35a-36a, 50a. In other words, the structure disclosed for performing the "generating" and "embedding" functions is a "CPU" (a "central processing unit," *i.e.*, a computer) programmed with "software" that generates and embeds indices. There was no dispute, at least at the summary judgment stage, that an ordinary computer programmer at the time of the filing of the patent would have known how to create computer software that would perform the "generating" and "embedding" functions.

3. Finisar sued Respondents (collectively "DIRECTV") in the United States District Court for the Eastern District of Texas, alleging infringement of the '505 patent. The district court had jurisdiction under 28 U.S.C. § 1338(a). Finisar alleged infringement of two sets of claims. The first set ("the system claims") comprised claims 1, 2, 7, 9, 10, 11,

and 37, which cover "[a]n information transmission system." The second set ("the method claims") comprised claims 16, 17, 22, 24, 25, 26, 39, and 44, which cover "[a]n information transmission method."

The district court first issued an opinion interpreting and construing the language of the claims. With respect to the means-plus-function element in claims 1 and 37, the district court concluded that "this claim term is indefinite because no structure is disclosed for performing the recited function." Pet. App. 51a. Despite the plain language of 35 U.S.C. § 112, paragraph 6 and the indisputable fact that a "CPU" *is* a "structure," the district court did not construe the means-plus-function element in claims 1 and 37 to cover a CPU programmed to perform the "generating" and "embedding" functions. Instead, it believed the Federal Circuit's case law to hold that when "[a] function is computer implemented, the patent must disclose an algorithm to be performed by the computer to accomplish the recited function." Pet. App. 49a. The district court reasoned that the disclosed "CPU" was either not considered "structure" at all or was not sufficient structure because the patent "describes no algorithm, formula, or series of steps performed by the computer to accomplish the function of generating indices and embedding them." Pet. App. 50a. The district court did not point to any requirement in 35 U.S.C. § 112 for an "algorithm."

DIRECTV then moved for summary judgment that all of the system claims were invalid because they all required the means-plus-function language that the district court had previously determined to be indefinite. The district court granted summary

judgment that the system claims were invalid for indefiniteness. Pet. App. 6a, 66a-69a. This was in spite of affidavit testimony in the record demonstrating that an ordinary computer programmer at the time of the filing of the patent would have known how to create computer software that would perform the "generating" and "embedding" functions. Dkt. Nos. 43, 67, 87.

The case then proceeded to trial on all but one of the remaining method claims. Pet. App. 6a-7a. The jury found the method claims to be valid and infringed, and the district court therefore entered final judgment for Finisar. Pet. App. 6a-7a.

4. DIRECTV appealed to the Federal Circuit, and Finisar cross appealed from, *inter alia*, the district court's grant of summary judgment that the means-plus-function system claims were invalid for indefiniteness. The Federal Circuit had jurisdiction over the appeals pursuant to 28 U.S.C. § 1295(a)(1). The Federal Circuit vacated the final judgment and remanded the case for further proceedings with respect to the method claims, but affirmed the district court's grant of summary judgment that the means-plus-function system claims were invalid for indefiniteness. Pet. App. 34a-37a. The Federal Circuit's mandate issued on June 5, 2008, and the case is now proceeding on remand with respect to the remaining method claims. This petition challenges only the Federal Circuit's judgment with respect to the means-plus-function system claims.

In reviewing the district court's grant of summary judgment on the means-plus-function system claims, the Federal Circuit first recognized that the specification did disclose a "CPU" executing software

as structure for performing the "generating" and "embedding" functions. Pet. App. 35a-36a. The Federal Circuit then relied on its own case law for the following premise: "For computer-implemented means-plus-function claims where the disclosed structure is a computer programmed to implement an algorithm, 'the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.'" Pet. App. 36a (quoting *WMS Gaming, Inc. v. International Game Technology*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)). In other words, the Federal Circuit's premise was that when a computer and an algorithm *are* disclosed, a means-plus-function element should be construed to cover the computer as programmed with that algorithm. The Federal Circuit then reasoned from this premise that an algorithm *must* therefore be disclosed: "Thus the patent must disclose, at least to the satisfaction of one of ordinary skill in the art, enough of an algorithm to provide the necessary structure under § 112, ¶ 6." Pet. App. 36a. The Federal Circuit did not explain why its conclusion was required—as a matter of logic—by its premise, nor did it attempt to reconcile its conclusion with the plain language of section 112.

The Federal Circuit then gave controlling weight to its three-week-old decision in *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, 521 F.3d 1328 (Fed. Cir. 2008). Pet. App. 37a. The Federal Circuit repeated the following statement from its decision in *Aristocrat*:

> For a patentee to claim a means for performing a particular function and then to

> disclose only a general purpose computer as the structure designed to perform that function amounts to pure functional claiming. Because general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to 'the corresponding structure, material, or acts' that perform the function, as required by section 112 paragraph 6.

Pet. App. 37a. The Federal Circuit did not explain why "claim[ing] a means for performing a particular function and then...disclos[ing] only a general purpose computer" constituted "pure functional claiming," particularly where "a general purpose computer" is clearly not a "pure function[]" but is instead a "structure." Nor did it explain its assertion that construing means-plus-function claim language to be limited to "a computer and equivalents thereof" (as section 112, paragraph 6 requires) would "not limit the scope of the claim." Instead, blindly following its decision in *Aristocrat*, the Federal Circuit affirmed the district court's grant of summary judgment that the means-plus-function system claims were invalid.

Finisar petitioned for rehearing and rehearing *en banc*, pointing to the indisputable fact that a "CPU" is "a structure" and to the plain language of section 112, paragraph 6, which both demonstrate that the system claims are not "vague" or "indefinite" but can (and must) be construed to cover a CPU programmed to carry out the "generating" and "embedding"

functions. Finisar further explained that the system claims were also not invalid for lack of enablement because there was no dispute that an ordinary computer programmer would know how to program a computer to carry out the "generating" and "embedding" functions. The Federal Circuit denied the petition without comment. Pet. App. 70a-71a.

5. Both Finisar and Aristocrat are concurrently filing petitions for certiorari in this Court on October 3, 2008.

REASONS FOR GRANTING THE PETITION

This petition presents the same issue that is presented in *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, No. 08-____ (petition filed Oct. 3, 2008). The Court should grant the petition in the *Aristocrat* case for all of the reasons set forth in that petition and in this petition. Because the Federal Circuit in this case gave controlling weight to its decision in the *Aristocrat* case, Finisar submits that the most efficient course would be for this Court to hold this petition pending its disposition of the *Aristocrat* case and then dispose of this petition accordingly.

For example, if the *Aristocrat* petition is granted and the Federal Circuit's judgment in that case is reversed, vacated, or otherwise modified, the Court should then grant this petition, vacate the judgment of the Federal Circuit in this case, and remand to the Federal Circuit for further proceedings consistent with its decision in the *Aristocrat* case.

I. The Federal Circuit's Rule Contradicts The Plain Language of 35 U.S.C. § 112, ¶ 6

The Federal Circuit's decision in this case and in the *Aristocrat* case should be reviewed (and rejected) for several reasons. First and most significantly, the decisions in *Aristocrat* and in this case completely ignore the plain language of section 112, paragraph 6. The statute allows (indeed, requires) a means-plus-function element to be construed if there is *any* disclosure of "structure, material, or acts" for performing the claimed function. A "CPU" or a "computer" is clearly a "structure." The Federal Circuit has imposed an unwarranted, judicially-created requirement that there be further disclosure of an "algorithm" for computer-implemented functions. The statute plainly only requires a "structure." It does not require an "algorithm." There should be no judicially-created exception for computer-implemented functions. The Federal Circuit should not be allowed to depart from the plain language of a statute simply because it deems its rule to be better than that established by Congress. This is a situation in which the Federal Circuit "has so far departed from the accepted usual course of judicial proceedings...as to call for an exercise of this Court's supervisory power." Sup.Ct.R. 10(a).

II. The Federal Circuit's Rule Is Inconsistent With Other Statutory Provisions And Upsets The Carefully Balanced Scheme Implemented In The Patent Act

The decisions in *Aristocrat* and in this case not only ignore the plain language of section 112,

paragraph 6, but they also misread the other paragraphs of section 112 and are inconsistent with the carefully balanced Congressional scheme implemented in the Patent Act for assessing validity. This error is revealed by the Federal Circuit's reference to its new rule as a requirement for "definiteness." There is nothing "indefinite" (*i.e.*, vague) about construing a means-plus-function element to cover "a computer programmed to perform the 'generating' and 'embedding' functions." It is a relatively straightforward exercise to determine whether an accused system (or a prior art system) contains a computer and whether that computer is running software that is "generating" and "embedding" indices. There is nothing vague about the claim at issue here.

The Federal Circuit's reasoning both in *Aristocrat* and in this case reveals that the Federal Circuit's real concern is not about *clarity* but about *breadth*. But "breadth is not to be equated with indefiniteness." *In re Miller*, 441 F.2d 689, 693 (CCPA 1971).

Congress has established a system in which a claim's breadth is policed with other provisions. As discussed above, if the entire combination required by the claim, as properly construed, were so broad as to cover the "prior art," then the claim would be invalid for *lack of novelty* under 35 U.S.C. § 102. If the combination were so broad as to cover modifications that would have been obvious in light of the "prior art," then the claim would be invalid for *obviousness* under 35 U.S.C. § 103. If an ordinary computer programmer would not be able to program a computer to perform the "generating" and

"embedding" functions without further disclosure of an algorithm for performing those functions, the claim would be invalid for *lack of enablement* under 35 U.S.C. § 112, paragraph 1. The only reason that the claim should be held invalid for *indefiniteness* under section 112, paragraph 2 is if a person of ordinary skill could not understand the meaning of the "generating" and "embedding" functions or if the specification did not disclose *any* structure for performing those functions such that the mandate of paragraph 6 could not be followed. Here, however, there is no dispute that an ordinary computer programmer could program a computer to perform the "generating" and "embedding" functions without disclosure of an algorithm, there is no dispute that the "generating" and "embedding" functions can be understood, and there can be no dispute that a "CPU" is a "structure."

Thus, the Federal Circuit's assertion that the lack of an "algorithm" results in "indefiniteness" is not only contrary to the plain language of section 112, paragraph 6, but it is also inconsistent with the other provisions of section 112 and the other provisions governing validity. Hence, the Federal Circuit's rule upsets the carefully balanced scheme for policing patent validity that Congress has implemented in the Patent Act.

III. The Federal Circuit's Rule Improperly Creates Stricter Disclosure Requirements For Computer Technologies Than For Other Types of Technologies

The Federal Circuit's decisions in the *Aristocrat* case and in this case improperly create a special,

judicially-created rule for computer-implemented functions that does not apply to functions implemented with other types of technology. The result is a stricter disclosure requirement for computer-implemented functions, in complete derogation of the disclosure requirements set forth by Congress in section 112. Section 112 does not set up special disclosure requirements for different technologies. Rather, it simply and elegantly requires sufficient disclosure "as to enable any person skilled in the art to which [the invention] pertains, or with which it is most nearly connected, to make and use the same." The statute contains no justification for discriminating against computer-implemented functions.

The Federal Circuit's case law involving other technologies does not require the additional detail that is now required for computer-implemented means-plus-function elements. For example, in *S3, Inc. v. nVIDIA Corp.*, 259 F.3d 1364, 1370 (Fed. Cir. 2001), the claim required "digital-to-analog converter means...for selectively receiving either [a] video information data stream or [a] video display information data stream [and] converting the received data to analog video signals." The specification disclosed the structure for performing the function broadly as "a selector." *Id.* The Federal Circuit noted that "the electronic structure of the selector and the details of its electronic operation are not described in the specification." *Id.* The district court granted summary judgment that the claim was invalid for indefiniteness because details regarding the selector were not disclosed. *Id.* at 1367, 1370. The Federal Circuit reversed, holding that such

details were not required, in language that should be equally applicable to this case:

> The law is clear that patent documents need not include subject matter that is known in the field of the invention and is in the prior art, for patents are written for persons experienced in the field of the invention. To hold otherwise would require every patent document to include a technical treatise for the unskilled reader. Although an accommodation to the "common experience" of lay persons may be feasible, it is an unnecessary burden for inventors and has long been rejected as a requirement of patent disclosures.
>
> The uncontradicted evidence was that a selector is of well known electronic structure and performs a common electronic function, and is readily implemented from the description in the specification. There was no contrary evidence. It is not the criterion for compliance with § 112, whether a lay person having no skill whatsoever in this field would know how a selector is constructed. Thus, the ruling in invalidity for failure to comply with § 112 is incorrect, and must be reversed.

Id. at 1371 (citations omitted); *see also Intel Corp. v. VIA Technologies, Inc.*, 319 F.3d 1357, 1365-67 (Fed. Cir. 2003) (rejecting argument that means-plus-function element was indefinite "because no circuitry is disclosed in the patent"). If there is no requirement that the details of a "selector" be disclosed in order to comply with the requirements of section 112 when those details could be easily

implemented by a person of ordinary skill in the field of electronics, then there should also be no requirement that the algorithmic details of a programmed "computer" be disclosed when an ordinary computer programmer could easily implement such an algorithm. However, the Federal Circuit's rulings in this case and in the *Aristocrat* case unjustifiably hold that computer-implemented functions must be held to a stricter and higher standard of disclosure.

IV. The Federal Circuit's Rule Upsets Public Expectations Because It Contradicts Previous Precedents Involving Computer-Implemented Functions

The *Aristocrat* decision and the decision in this case have upset the public's expectations and have set the law in disarray, because the rule is inconsistent with the Federal Circuit's own precedent, even in computer-implemented means-plus-function cases. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002) ("[C]ourts must be cautious before adopting changes that disrupt the settled expectations of the inventing community.").

For over thirty years, since a time when computer technology was still in its infancy, the Federal Circuit's precedent has not required the disclosure of an algorithm for computer-implemented functions in order to avoid indefiniteness—until now. In *In re Noll*, 545 F.2d 141 (CCPA 1976), the Federal Circuit's predecessor court (the Court of Customs

and Patent Appeals)* rejected an argument that a means-plus-function claim was invalid for indefiniteness for failure to disclose "the detailed internal structure of the computer as programmed." *Id.* at 149. The court had no difficulty construing the means-plus-function elements at issue to "encompass the means described in the specification, *i.e.*, the specified programmed general purpose computer, and equivalents thereof." *Id.*

In *In re Dossel*, 115 F.3d 942 (Fed. Cir. 1997), the Federal Circuit reversed the Patent Office's rejection of a means-plus-function claim for indefiniteness. The Board of Patent Appeals and Interferences had determined that the specification lacked a disclosure of *any* structure for performing the claimed function. *Id.* at 944. The Federal Circuit concluded that although the specification did not expressly disclose that a computer would be used to perform the claimed function, it was apparent that the function "must be implemented by or on a general or special purpose computer." *Id.* at 947. Significantly, the Federal Circuit had previously explained that the specification "does not disclose exactly what mathematical algorithm will be used," *id.* at 946, but found this to be of no significance in reversing the indefiniteness rejection, *id.* at 947. In future cases, the Federal Circuit repeatedly characterized its decision in *Dossel* as construing the means-plus-function element to cover a general-purpose computer without the requirement for any particular

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* The Federal Circuit has adopted the decisions of the Court of Customs and Patent Appeals as binding precedent. *South Corp. v. United States*, 690 F.2d 1368, 1369 (Fed. Cir. 1982) (en banc).

algorithm. *Intel Corp. v. VIA Technologies, Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003) ("[I]n *In re Dossel*, ...the structure corresponding to the 'reconstructing' function...was determined to be a general-purpose computer."); *Personalized Media Communications, LLC v. International Trade Commission*, 161 F.3d 696, 700 n.5 (Fed. Cir. 1998) ("[I]n *Dossel* we held, on 'specific facts,' a means-plus-function claim not invalid for indefiniteness under § 112, ¶ 2 even though the algorithmic structure corresponding to 'means for reconstructing' was not specifically disclosed in the written description.").

Finally, in *Medical Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210-19 (Fed. Cir. 2003), the patentee attempted to demonstrate that the specification disclosed software (to be run on a general-purpose computer) as structure for performing the "converting" function in a means-plus-function element. However, the Federal Circuit determined that there was no disclosure stating that the function could be performed by software. *Id.* Significantly, however, the Federal Circuit then commented that *if* the disclosure had explained that the function could be performed by software, then "there would be no need for a disclosure of the specific program code" as long as "one skilled in the art would know the kind of program to use." *Id.* at 1214.

Thus, with its decisions in *Aristocrat* and this case, the Federal Circuit has unjustifiably departed from a long line of cases in which the public has been told that a general-purpose computer without disclosure of any "algorithm" or "specific program code" can qualify as the structure for performing the

function required by a means-plus-function element, especially when a person of ordinary skill in the art of computer programming would know how to implement such a function. The Federal Circuit's new rule to the contrary is a marked departure from its previous precedents and has upset the "settled expectations of the inventing community." *Festo*, 535 U.S. at 739.

V. The Federal Circuit's Rule Will Continue To Give Rise To Recurring Problems If Not Corrected Now

The Federal Circuit's failure to follow the plain language of 35 U.S.C. § 112 in this case does not present an isolated problem. The issue is a recurring one and therefore needs to be resolved correctly at the earliest possible time. It is no coincidence that two cases presenting this very same issue were decided by the Federal Circuit within three weeks of each other (this case and the *Aristocrat* case). A number of reported decisions from past district court cases further confirm that the issue is a frequent one. *See, e.g., Gobeli Research, Ltd. v. Apple Computer Inc.*, 384 F.Supp.2d 1016, 1022-23 (E.D. Tex. 2005) (holding means-plus-function claim indefinite for failure to disclose algorithm as corresponding structure); *Civix-DDI, LLC v. Microsoft Corp.*, 84 F.Supp.2d 1132, 1147 (D. Colo. 2000) (holding means-plus-function claim should not fail for indefiniteness although an algorithm was not disclosed); R. Trevor Carter, Practising Law Institute, *Ramifications of Recent Decisions on Business Method and Software Patents*, 899 PLI/Pat 813, 822-28 (2007) (collecting district court cases addressing the sufficiency of structure in mean-plus-

function claims involving computer-implemented functions).

Moreover, in the few short months since the Federal Circuit has decided the *Aristocrat* case and this case, the Federal Circuit's rule has already been applied in at least three further cases to invalidate patents for failure to disclose an algorithm. *Hochstein v. Microsoft Corp.*, No. 04-CV-73071, 2008 WL 4104332 (E.D. Mich. Sept. 2, 2008) (granting summary judgment that means-plus-function claim was invalid for indefiniteness for failure to disclose an algorithm, relying on *Aristocrat* and *Finisar*); *CBT Flint Partners, LLC v. Return Path, Inc.*, 566 F.Supp.2d 1363 (N.D. Ga. July 10, 2008) (holding a means-plus-function claim invalid for indefiniteness because the specification failed to disclose an algorithm for performing a computer-implemented function, relying on *Aristocrat*); *Alcatel USA Resources, Inc. v. Microsoft Corp.*, No. 06-CV-500, 2008 WL 2625852, at *13-17 (E.D. Tex. June 27, 2008) (holding a means-plus-function claim involving software executed on a processor invalid for indefiniteness because the specification did not disclose "sufficient algorithmic structure," relying on *Aristocrat* and *Finisar*).

The Federal Circuit's special, judicially-created rule ignoring the plain language of section 112 and discriminating against computer-implemented functions will continue to give rise to recurring problems if it is not corrected by this Court. As such, this Court should grant certiorari and not allow the Federal Circuit's erroneous rule to stand.

CONCLUSION

For the reasons set forth above, the Court should grant the petition in *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, No. 08-____ (petition filed Oct. 3, 2008) and hold the petition in this case pending a decision in the *Aristocrat* case. The Court should then grant this petition and dispose of it in accordance with the Court's decision in the *Aristocrat* case.

Respectfully submitted,

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Attorneys for Finisar Corporation
October 3, 2008

APPENDIX A

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2007-1023, 2007-1024

FINISAR CORPORATION,

Plaintiff-Cross Appellant,

v.

The DIRECTV Group, Inc., DIRECTV Holdings LLC, DIRECTV Enterprises LLC, DIRECTV Operations LLC, Hughes Network Systems, Inc., and DIRECTV, Inc.,

Defendants-Appellants.

Larry R. Laycock, Workman Nydegger, of Salt Lake City, UT, argued for plaintiff-cross appellant. With him on the brief were Charles L. Roberts, C.J. Veverka, and David R. Todd. Of counsel on the brief was Stanley J. Panikowski, DLA Piper U.S. LLP, of San Diego, CA.

Gregory A. Castanias, Jones Day, of Washington, DC, argued for defendants-appellants. With him on the brief were Jennifer L. Swize, of Washington, DC, and Victor G. Savikas, Louis L. Touton, and Kevin G. McBride, of Los Angeles, CA.

Appealed From: United States District Court for the Eastern District of Texas

Judge Ron Clark

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2007-1023, 2007-1024

FINISAR CORPORATION,

Plaintiff-Cross Appellant,

v.

The DIRECTV Group, Inc., DIRECTV Holdings LLC, DIRECTV Enterprises LLC, DIRECTV Operations LLC, Hughes Network Systems, Inc., and DIRECTV, Inc.,

Defendants-Appellants.

Appeals from the United States District Court for the Eastern District of Texas in Case No. 1:05-CV-00264, Judge Ron Clark

DECIDED: April 18, 2008

Before MICHEL, Chief Judge, RADER and MOORE, Circuit Judges.

RADER, Circuit Judge.

By a jury verdict, the United States District Court for the Eastern District of Texas found that The DirecTV Group, Inc., DirecTV Holdings, LLC, DirecTV Enterprises, LLC, DirecTV Operations, LLC, and DirecTV, Inc. (collectively DirecTV) had infringed U.S. Patent No. 5,404,505 (the '505 patent), assigned to Finisar Corporation (Finisar). Finding

DirecTV's infringement to have been willful, the jury awarded $78.9 million in reasonable royalty damages. The district court sustained the jury's verdict, except with respect to induced and contributory infringement, denied Finisar's request for injunctive relief, imposed a compulsory license, and awarded Finisar $25 million in enhanced damages. *Finisar Corp. v. DirecTV Group, Inc.*, No. 1:05-CV-00264, 2006 WL 2037617 (E.D.Tex. July 7, 2006) (*Final Judgment*). The district court also denied DirecTV's post-judgment motions for judgment as a matter of law (JMOL) or a new trial. *Finisar Corp. v. DirecTV Group, Inc.*, Case No. 1:05-CV-00264, 2006 WL 2709206 (E.D.Tex. Sept. 1, 2006) (*JMOL Order*).

Because the district court incorrectly construed a vital term featured prominently in each asserted claim, this court vacates the verdict of infringement. Furthermore, the district court erred in ruling that the prior art did not anticipate claim 16. This error also infects the scope of the prior art for assessing the validity of the rest of the claims. Therefore, this court remands for a new trial on both infringement and validity of claims 17, 22, 24, 26, 39, and 44.

I

The '505 patent, issued on April 4, 1995 from an application filed on November 1, 1991, claims systems and methods for scheduling transmission of database tiers upon specific demand or at specific times and rates of repetition. The '505 patent describes an information broadcasting system that gives subscribers access to video and audio programs

through high-speed satellite or cable links. *See* '505 patent, Abstract; col.1 l.68-col.2 l.2. Under the patented system, subscribers do not need to request the most popular and trendy movies, for example, or other programs. Instead the system anticipates likely (more popular) requests and broadcasts those programs to users on an announced schedule at regular intervals. Thus, most of the interaction between the user and the information server is unidirectional, meaning that the server sends most of the data to the subscriber without even receiving a request.

For scheduled transmissions, i.e. those not responsive to a specific user request, the system sends more popular data more frequently. To make this work, the system divides the information database into different tiers based on likely popularity. Then the system broadcasts each tier of data at a particular repetition rate. *See id.*, col.14 ll.2-18. Thus, the system arranges all information in the database in a hierarchical structure. *See id.*, col.6 ll.28-40. In this regard, the '505 specification analogizes the claimed invention to accessing information in a large library:

> It is important to note that while a user has access to perhaps a terabtye, or even 100 terabytes or more, of data, the total amount of data that systems in accordance with the present invention system can transmit in any one day is much more limited, as will be described below. This is not unlike visiting the main library of a major university, such as Yale or Harvard University, having stacks containing several million volumes of

> books. Having "access" to all those books every single day does not means [sic] that a user can receive them all in one day, nor does it mean that all the users can receive all the books in a single day. Nevertheless, each particular book (file or program) is available on relatively short notice, and having access to such a large collection of books (data) is still very useful.

Id., col.2 ll.9-23. The '505 specification also compares the claimed invention to other information distribution systems, like books and CDs, estimating that the system saves vast amounts in distribution costs by avoiding shipment of each individual copy of the desired data. *See id.*, col.2 ll.24-43.

DirecTV began offering direct-to-home satellite broadcasting in the United States in 1994. A DirecTV subscriber accesses the broadcasting system through a small antenna (generally a small satellite dish affixed to the exterior of a subscriber's home) and its associated electronics, along with a set-top box, which attaches to the subscriber's television set. DirecTV generally broadcasts four types of information: turnaround programming, playback programming, conditional access information, and program guide information.

Turnaround programming constitutes the bulk of DirecTV's broadcasts. This category of programming re-broadcasts or "turns around" content from other television channels like CNN, Comedy Central, ESPN, and Animal Planet, to name a few. The owners of these channels, rather than DirecTV, schedule the airing of their programs. As discussed

below with respect to infringement, the parties dispute the degree to which DirecTV controls, or "programs," the turnaround programming. A different company, Tribune Media Services, collects scheduling information from the various channels. DirecTV adopts the Tribune schedule.

As noted above, DirecTV also offers "playback" programming, which comprises pay-per-view movies and the like. DirecTV itself schedules the broadcast of playback programming. DirecTV's broadcasts also include "conditional access" information, which allows an authorized subscriber to pay for and receive selected programs. DirecTV controls access to this information by broadcasting it in an encrypted format. Finally, DirecTV's broadcasts also include an electronic program guide, which provides the user with information about current and upcoming programs on the various channels.

Finisar sued DirecTV for infringement of the '505 patent, initially asserting that DirecTV's direct broadcast satellite system infringed fifteen of the '505 patent's forty-eight total claims. After a *Markman* hearing and a claim construction order, *Finisar Corp. v. DirecTV Group, Inc.*, 416 F.Supp.2d 512 (E.D.Tex.2006) (*Markman Order*), the district court concluded on summary judgment that seven of the asserted claims (claims 1, 2, 7, 9, 10, 11, and 37, all means-plus-function claims) were invalid for indefiniteness. *Finisar Corp. v. DirecTV Group, Inc.*, Case No. 1:05-CV-00264, 2006 WL 1207828 (E.D.Tex. May 2, 2006) (*Invalidity Order*). Before trial, Finisar dropped its allegation of infringement of one claim (claim 25).

A jury heard evidence on infringement of the remaining seven asserted claims (claims 16, 17, 22, 24, 26, 39, and 44). The jury concluded that DirecTV infringed all seven claims (directly and by inducement and contribution). Finding DirecTV's infringement to have been willful, the jury awarded $78.9 million in reasonable royalty damages. The district court sustained the jury's verdict, except with respect to induced and contributory infringement, denied Finisar's request for injunctive relief, imposed a compulsory license, and awarded $25 million in enhanced damages. *Final Judgment.* The district court also denied DirecTV's post-judgment motions for JMOL or a new trial. *JMOL Order.*

II

Between DirecTV's appeal and Finisar's cross-appeal, this court confronts a variety of issues. DirecTV's appeal challenges the district court's construction of two claim terms ("information database" and "downloading into a memory storage device") and the jury's findings of literal infringement, validity (novelty and non-obviousness), and willfulness. Finisar cross-appeals the district court's denial of Finisar's motion for a permanent injunction, imposition of a compulsory license at a rate of $1.60 per set-top box, and grant of summary judgment of invalidity on claims 1, 2, 7, 9, 10, 11, and 37 as indefinite.

The district court denied DirecTV's post-trial motions for JMOL or a new trial on non-

infringement, invalidity, and non-willfulness. On the motions for JMOL or a new trial, this court applies the law of the regional circuit, in this case the United States Court of Appeals for the Fifth Circuit. *See Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1248 (Fed. Cir. 2005) (JMOL); *Imonex Servs., Inc. v. W.H. Munzprufer Dietmar Trenner GmBH*, 408 F.3d 1374, 1380 (Fed. Cir. 2005) (new trial). Our sister circuit reviews a JMOL motion without deference. *Cambridge Toxicology Group, Inc. v. Exnicios*, 495 F.3d 169, 179 (5th Cir. 2007). JMOL "is appropriate only when a 'reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.'" *Id.* (quoting Fed.R.Civ.P. 50(a)(1)). To this end, "the Fifth Circuit describes appellate review of a JMOL denial as a determination whether 'the facts and inferences point so strongly and overwhelmingly in favor of one party that the court concludes that reasonable jurors could not arrive at a contrary verdict.'" *Harris*, 417 F.3d at 1248 (quoting *Bellows v. Amoco Oil Co.*, 118 F.3d 268, 273 (5th Cir. 1997)). In contrast, a district court's denial of a motion for a new trial is reviewed for abuse of discretion. *Industrias Magromer Cueros y Pieles S.A. v. La. Bayou Furs Inc.*, 293 F.3d 912, 924 (5th Cir. 2002).

1. Claim Construction

This court reviews claim construction without deference. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1451 (Fed. Cir. 1998) (en banc). Generally this court gives claim terms their ordinary and customary meanings, according to the customary understanding of an artisan of ordinary skill at the time of the

invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). And "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. When construing claims, the claims and the rest of the patent, along with the patent's prosecution history (together, the intrinsic evidence of the meaning of the claims) are the primary resources; while helpful, extrinsic sources like dictionaries and expert testimony cannot overcome more persuasive intrinsic evidence. *See id.* at 1318.

In this instance, the United States District Court for the Eastern District of Texas was not the only trial court to have construed the claims of the '505 patent, including the two terms disputed on appeal. The United States District Court for the Northern District of California issued a *Markman* order in a declaratory judgment action filed by Comcast Cable Communications Corp. (Comcast) against Finisar for patent non-infringement. *Comcast Cable Commc'ns Corp. v. Finisar Corp.*, No. C 06-04206, 2007 WL 1052821, 2007 U.S. Dist. LEXIS 28994 (N.D.Cal. Apr. 6, 2007) (*Comcast Markman Order*). Given "the importance of uniformity in the treatment of a given patent," *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), this court would be remiss to overlook another district court's construction of the same claim terms in the same patent as part of this separate appeal. In the interest of uniformity and correctness, this court consults the claim analysis of

different district courts on the identical terms in the context of the same patent. Here, the Northern District of California's efforts in the *Comcast* case are particularly helpful because that court repeatedly referred back to the Eastern District of Texas's constructions-the subjects of this appeal. *See, e.g., Comcast Markman Order,* 2007 WL 1052821, at *2, 3, 4, 7, 10, 11, 13, 2007 U.S. Dist. LEXIS 28994, at *6, 7, 10, 18, 27, 30, 36.

DirecTV appeals the district court's construction of two terms, "information database" and "downloading into a memory storage device." Independent claim 16 shows these terms in context:

> 16. An information transmission method comprising the steps of:
>
> storing an *information database* on one or more memory devices;
>
> generating and storing on said memory devices a hierarchically arranged set of indices for referencing data in said *information database,* including distinct indices for referencing distinct portions thereof, and embedding said indices in said *information database*;
>
> scheduling transmission of selected portions of said *information database,* including assigning each selected portion of said *information database* one or more scheduled transmission times;
>
> transmitting a stream of data packets containing said selected portions of said *information database*

in accordance with said scheduled transmission times;

said scheduling step including dividing said selected portions of said *information database* into a prioritized set of tiers, wherein all the selected portions of said *information database* in each tier are transmitted at a corresponding repetition rate, wherein the repetition rate for higher priority tiers is higher than the repetition rate for lower priority tiers;

receiving said transmitted stream of data packets at subscriber stations;

at each subscriber stations, storing filter data corresponding to a subset of said indices, said filter data specifying a set of requested data packets which comprises a subset of said transmitted data packets; and

at each subscriber station, *downloading into a memory storage device* those of said received data packets which match said specified set of requested data packets.

'505 patent, col.21 ll.34-68 (emphases added).

"information database"

The Eastern District of Texas construed "information database" to mean "a collection of computerized information which can be accessed." *Markman Order,* 416 F.Supp.2d at 517. The Northern District of California construed this term somewhat

differently, as "a dynamic, structured collection of digitized data capable of being held in computer storage." *Comcast Markman Order,* 2007 WL 1052821, at *6, 2007 U.S. Dist. LEXIS 28994, at *16-17.

The construction reached by the district court in this case is unjustifiably broad because the information database as claimed requires searchability and retrievability beyond mere accessibility. In isolation, the term "information database" suggests a very broad coverage. In context, however, this claim term repeatedly appears within a framework that requires referencing, embedding, assigning, and transmitting portions of the database. These database functions and capabilities, in turn, presuppose searchability and retrievability.

Beyond the context of the claim language, the '505 patent specification supports this narrower reading of the term. As discussed, the specification analogizes the invention to a large library. This analogy suggests that a user can quickly obtain specific data from a large database. Indeed, the '505 specification confirms that the user has "reasonably quick access to all the contents of the large database," but the amount of data available to a given library patron/user at any given time "is much more limited," allowing the user to borrow a "particular book (file or program)" on "relatively short notice." '505 patent, col.3 ll.3-5; col.2 ll.9-23. Once again, the specification underscores the searchability and retrievability of the database. This court emphasizes that its construction does not necessarily entail the full-text searching available

with electronic legal research systems (e.g. LexisNexis or Westlaw). The district court expressed some concerns on this point. *See Markman Order*, 416 F.Supp.2d at 516-17 ("For example, common legal research systems allow very narrow searches, such as by case name, by judge name, and even by a particular word. In contrast, some of the data in the '505 system can only be referenced in broader terms, such as a search for a movie by title, but not necessarily by words used in a movie or group of movies."). And in the *Comcast* case, the Northern District of California did not require a fully-searchable database of this sort. *Comcast Markman Order*, 2007 WL 1052821, at *6, 2007 U.S. Dist. LEXIS 28994, at *16-17. Rather, the Northern District observed that claim 16 does not indicate any searchability "beyond the navigability implied by the index itself," and that "the requests are based on the system of indices." *Id.*

The hierarchical indices recited later in the claims for "referencing data" in the information database actually confirm, rather than refute, that the claimed method must include search and retrieval features. Such hierarchical indices facilitate the search and retrieval of data from the information database. Thus the claims envision a more specific "information database" than provided by the district court's construction. To return to the book analogy, an index at the back of a book correlates specific terms or concepts to the pages where they appear in the main text of the book by page number. Such an index would have little or no value if the pages of the main text were not numbered or arranged sequentially.

The district court rejected the analogy of an index found at the back of a book referring to sequentially ordered pages because "an index can be a single data item." *Markman Order,* 416 F.Supp.2d at 517. Specifically, the district court cited the following passage from the '505 specification: "indices (each of which contains a packet ID plus additional information) ... form a single hierarchical structure that encompasses the entire information database." '505 patent, col. 6 ll.31-36. Even if this passage may suggest that the '505 patent allows for the possibility that one data item can refer to the entire information database, the next sentence specifically requires a plurality of indices: "[m]ore specifically, software ... generates a hierarchical set of indices referencing all the data in the information database." *Id.,* col.6 ll.36-39. Thus according to the '505 patent, the index is composed of a hierarchical set of indices that, taken together, reference all the data in the information database. Continuing with the library analogy, the '505 patent's hierarchical set of indices is akin to a card catalog system, and the "information database" is like a library's collection of books. To make the card catalog system relevant, the library must shelve the books according to some order, like the Dewey Decimal or Library of Congress systems. This court cannot envision carefully organizing each book's card catalog records, but then randomly heaping the books themselves into an inaccessible pile in the center of the library rather than shelving them by call number. Likewise, the information database of the asserted claims must include search and retrieval features at least commensurate with "the navigability implied by the

index itself," as the Northern District of California put it. This court therefore construes "information database" as used in the '505 patent as "a collection of computerized information which can be accessed and searched, and from which selected information can be retrieved, and where the search and retrieval capabilities are at least as specific as those of the hierarchically arranged set of indices."

"downloading into a memory storage device"

The district court construed the "downloading" step in claim 16 ("downloading into a memory storage device those of said received data packets which match said specified set of requested data packets") to mean "the data filter transfers into a memory storage device the data packets specified in the filter data." *Markman Order*, 416 F.Supp.2d at 522. In contrast, the Northern District of California construed "downloading into a memory storage device" as "transferring the desired data into a device capable of saving it for later access." *Comcast Markman Order*, 2007 WL 1052821, at *12, 2007 U.S. Dist. LEXIS 28994, at *35.

This court perceives that "downloading into a memory storage device" requires more than the mere *transfer* of data, but *retention* of data as well. Thus the claims require a downloading that preserves the data for later use or retrieval of the transferred data. Once again, the language of the claims, in context, specifies that the data downloads "into a memory storage device." Thus, the claim itself associates "downloading" with memory, retention, and preservation. Indeed the Northern District of

California construed the term to require capacity for later access.

The '505 patent specification supports this reading. In its description, the '505 specification refers to the invention as an alternative to CDs or paper publications. '505 patent, col.2 ll.24-43. Both of these alternative forms entail preservation and retention of the downloaded or published data. Similarly, the library analogy supports this court's reading. When patrons borrow a book, they have access to the entire work until they return it to the library; they could flip back and forth or reread portions at will, rather than only reading straight through the book at a predetermined time.

In this instance, the doctrine of claim differentiation also bolsters this court's interpretation. Indeed the Northern District of California relied in part on the doctrine of claim differentiation to arrive at its construction of "downloading into a memory storage device." *Comcast Markman Order*, 2007 WL 1052821, at *10-12, 2007 U.S. Dist. LEXIS 28994, at *30-35. Specifically, the *Comcast* court compared claim 16, recited above, with claim 26, which further modifies the "receiving" and "downloading" steps of claim 16:

> 26. The information transmission method of claim 16, said receiving and downloading steps including:
>
> at each subscriber stations, *temporarily storing received data packets in a buffer*, storing a filter list comprising said filter data referencing said specified set of requested data packets, *comparing*

said data packets temporarily stored in said buffer with said filter data and then forwarding those data packets in said buffer which match said filter data to a predefined destination;

whereby each subscriber station receives all transmitted data packets but forwards only requested data packets to said predefined destination.

'505 patent, col.23 ll.15-27 (emphases added). Reasoning that the "predefined destination" recited at the end of claim 26 must be a "memory storage device" by comparing claim 26 to claim 16, the Northern District of California noted that "the use of the buffer in claim 26 was *not* as a memory storage device. Rather, it was a refinement on the filtering step." *Comcast Markman Order*, 2007 WL 1052821, at *12, 2007 U.S. Dist. LEXIS 28994, at *33 (emphasis in original). Turning to the specification's consistently separate references to the filtering step and the downloading step, the Northern District of California observed that "[s]torage need not be permanent, but being able to view content at a time after it has been downloaded is a key feature of this invention," *id.* at *12, 2007 U.S. Dist. LEXIS 28994, at *34, and that "the buffer used in the filter step will not do double duty as the storage memory device for the downloading step," *id.* at *12, 2007 U.S. Dist. LEXIS 28994, at *34-35. For all of the reasons outlined above, this court agrees. As such, this court adopts the Northern District of California's construction of "downloading into a memory storage device" as "transferring the desired data into a device capable of saving it for later access."

This court observes that fleeting or transient retention does not qualify as the kind of downloading defined by these claims. The '505 specification at one point describes the "download[ing]" of data corresponding to anticipated information requests into a "smart cache," which is used as a temporary buffer, and which is overwritten upon receipt of new information in a later request. '505 patent, col.9 ll.4-13. This discussion of the smart cache in column 9 is thus further evidence that "downloading" requires capacity for non-transient data retention, because only retained data could be used to service the user's "future information requests." *Id.*, col.9 ll.1-3. Also, the specification describes that selected data from the smart cache "can be moved to other areas of the user's hard disk," while unused data from the smart cache are overwritten with new data. '505 patent, col.16 ll.31-44. Furthermore, column 11 of the '505 patent distinguishes fairly clearly between buffering and downloading: the data packets received from the satellite are stored in a "ring buffer," which in turn may vary in size, depending on "the maximum possible delay before a selected packet is downloaded onto the subscriber's host computer." *Id.*, col.11 ll.34-46. Thus, "downloading" as used in the patent requires something more than just transient retention of data.

2. Literal Infringement

Literal infringement is a question of fact, reviewed for substantial evidence when tried to a jury. *ACCO Brands, Inc. v. ABA Locks Mfrs. Co.*, 501 F.3d 1307, 1311 (Fed. Cir. 2007). Where an infringement verdict

relies on incorrect construction of the disputed claim terms, this court may grant JMOL or order a new trial to correct the error, depending on the degree of difference between the incorrect construction and the correct construction. If no reasonable jury could have found infringement under the proper claim construction, this court may reverse a district court's denial of JMOL without remand. *See Harris*, 417 F.3d at 1255-57. Here, DirecTV argues that it does not infringe under the proper construction of "information database" and "downloading into a memory storage device." Also, without disputing the district court's construction of any particular additional term, DirecTV asserts that its system does not satisfy the "scheduling" step recited in the asserted claims.

"information database"

Because the district court construed "information database" too broadly, this court must evaluate the effects of this erroneous construction on the jury's infringement verdict, through which the jury necessarily concluded that DirecTV's system met the "information database" limitation. In this instance, this court's reversal of the district court's construction has no discernible effect on the jury's verdict, because the difference between the correct construction of "information database" and the one relied upon by the jury depends on the specificity of the hierarchically arranged set of indices. Because DirecTV does not appeal the district court's construction of "set of indices for referencing data in said information database" or "hierarchically arranged set of indices," nor does DirecTV dispute

the jury's implicit finding that that DirecTV's system met these limitations as part of arriving at its infringement verdict, this court considers the district court's erroneous construction of "information database" as harmless.

"downloading into a memory storage device"

This court's construction of "downloading into a memory storage device" as "transferring the desired data into a device capable of saving it for later access" is markedly different than the construction used by the jury in its infringement inquiry. The instruction followed by the jury did not require this capacity for retention, so the jury's verdict of infringement cannot necessarily be said to have been predicated on a finding that DirecTV's system included it. Moreover, the meaning of "downloading" necessarily informs the treatment of the data in the memory storage device. As a result, the jury's infringement verdict must be vacated.

To be more specific, DirecTV's broadcasts consist of four types of data: turnaround programming, playback programming, conditional access information, and the electronic program guide, as described above. The record shows that some DirecTV subscribers use set-top boxes that also function as digital video recorders (DVRs) (DVR set-top boxes), while others use standard set-top boxes. DVRs allow users to select and record particular programs for later use, as well as to pause and play back "live" video. The four broadcast data types and two set-top box types thus represent two different ways to subdivide DirecTV's service. The record and

briefs on appeal are insufficient to accurately sort out these overlapping subsets with respect to the "downloading" limitation, especially in light of the new construction, thus necessitating remand.

"one or more scheduled transmission times"

The claims also require the infringer to assign "one or more scheduled transmission times." This limitation comes from the "scheduling" step, the third step in claim 16. This step recites:

> scheduling transmission of selected portions of said information database, including assigning each selected portion of said information database one or more scheduled transmission times;

'505 patent, col.21 ll.44-47. DirecTV alleges that the district court interpreted "selected portions of [the] information database" as "each part of the information database selected for transmission." To the contrary, the district court construed "dividing said selected portions of said information database into a prioritized set of tiers, wherein all the selected portions of said information database in each tier are transmitted at a corresponding repetition rate" to mean "placing each part of the information database selected for transmission into one or more groups of information, and transmitting each group at a chosen repetition rate." *Markman Order,* 416 F.Supp.2d at 520.

Relying on its interpretation of the district court's construction of "each" in the "dividing" step to inform the use of "each" in the "scheduling" step, or

alternately on the plain meaning of "each," DirecTV argues that Finisar had to prove that the "selected portions" of DirecTV's database it identified are "each" assigned a scheduled transmission time. The record shows that only 3% of DirecTV's programming (i.e. its data selected for transmission) comprises playback programming that fits within this meaning of "scheduled." The other 97% is turnaround programming, received from third-party content providers like CNN, ESPN, and others. DirecTV argues, inter alia, that it does not infringe because these third parties schedule the programming, independently of DirecTV.

Nonetheless, even under DirecTV's interpretation of the district court's construction, claim 16 does not require scheduling for *all* transmitted information. Rather the claim specifies scheduling for "each part of the information database selected for transmission." Thus the claim leaves room for transmission of other data in other, i.e. non-scheduled, ways because claim 16 is written using an open-ended format, using the transitional term "comprising." Claim 16 simply does not require scheduling for all transmissions from the information database, but only for some, i.e. "selected," portions. Because both parties agree that DirecTV assigns scheduled transmission times to its playback programming, comprising about 3% of its content, the jury had substantial evidence to conclude that DirecTV's accused system meets the "scheduling" step of the asserted claims.

3. Anticipation

Anticipation is a question of fact, reviewed for substantial evidence when tried to a jury. *z4 Techs., Inc. v. Microsoft Corp.*, 507 F.3d 1340, 1347 (Fed. Cir. 2007). If the claimed invention was "described in a printed publication" either before the date of invention, 35 U.S.C. § 102(a), or more than one year before the U.S. patent application was filed, 35 U.S.C. § 102(b), then that prior art anticipates the patent. Although § 102 refers to "the invention" generally, the anticipation inquiry proceeds on a claim-by-claim basis. *See Hakim v. Cannon Avent Group, PLC*, 479 F.3d 1313, 1319 (Fed. Cir. 2007). To anticipate a claim, a single prior art reference must expressly or inherently disclose each claim limitation. *Celeritas Techs., Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998). But disclosure of each element is not quite enough-this court has long held that "[a]nticipation requires the presence in a single prior art disclosure of all elements of a claimed invention *arranged as in the claim*." *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (citing *Soundscriber Corp. v. United States*, 175 Ct.Cl. 644, 360 F.2d 954, 960 (1966) (emphasis added)).

In this case, the prior art alleged to anticipate is *The Architecture of Videotex Systems (Videotex Architecture)*, a 1983 textbook by Jan Gecsei. This reference describes videotex as a "mass-communication medium based on a blend of television, communications, and computer technologies." *Id.* at 3. The reference further notes that videotex "is not a brand-new procedure based on

some glamorous breakthrough; its originality is rather in its combination of existing technologies." *Id.* at 6.

With respect to claim 16, Finisar's expert, Doug Eaton, testified at trial that *Videotex Architecture* did not teach the "scheduling," "transmitting," and "dividing" steps:

> scheduling transmission of selected portions of said information database, including assigning each selected portion of said information database one or more scheduled transmission times;
>
> transmitting a stream of data packets containing said selected portions of said information database in accordance with said scheduled transmission times;
>
> said scheduling step including dividing said selected portions of said information database into a prioritized set of tiers, wherein all the selected portions of said information database in each tier are transmitted at a corresponding repetition rate, wherein the repetition rate for higher priority tiers is higher than the repetition rate for lower priority tiers;

'505 patent, col.21 ll.44-57. The reference thus discloses the division of information into tiers, the transmission of information, and the scheduling of transmissions. The question on appeal, however, focuses on the interrelationships between these elements as claimed in claim 16. For instance, the claim requires "dividing said selected portions of said

information database into a prioritized set of tiers." Therefore, to anticipate, a reference must disclose division of the portions of the database into tiers and further assignment of scheduled transmission times to the selected portions *within* the tiers.

To check for anticipation, this court examines the *Videotex Architecture* reference in some detail. In a section entitled "Transmission Sequence" in Chapter 10, "Databases for Videotex," the reference explains:

> On-line and off-line reception can be mixed by controlling the repetition rate of transmitted pages. *A few hundred pages of general interest can be repeated in a short cycle, whereas less important or less frequently updated pages are inserted in hourly or even daily intervals into specific slots in the cycle, or according to a predetermined schedule.* This ... permits for the dissemination of very large amounts of data.

Videotex Architecture at 175 (emphasis added). This passage discloses two tiers with two corresponding repetition rates. Still the very specific requirements of anticipation demand a further inquiry. Particularly, this court must consider whether the jury could have reasonably concluded that this passage does not disclose assignment of scheduled transmission times to the pages in both tiers. Because "or according to a predetermined schedule" appears at the end of the sentence and after a comma, this court must ask whether the jury could have reasonably construed this phrase as an alternative only for the "less important or less frequently updated pages," rather than both tiers of

pages mentioned in the preceding clauses. *Id.* at 39-40.

Although this reading of the reference seems a stretch even at first blush, this court discussed an analogous situation in *Anhydrides & Chemicals, Inc. v. United States,* 130 F.3d 1481, 1483 (Fed. Cir. 1997). In that case, this court used general principles of English grammar for the proposition that "[r]eferential and qualifying words and phrases, *where no contrary intention appears,* refer solely to the last antecedent, which consists of 'the last word, phrase, or clause that can be made an antecedent without impairing the meaning of the sentence' " for purposes of statutory construction. *Id.* (quoting 2A C. Dallas Sands, *Sutherland Statutory Construction* § 47.33 (4th ed. 1984)) (emphasis added). Thus, this court has addressed this grammatical guideline referred to as the doctrine of the last antecedent. In *Anhydrides,* a case without a contrary intention in the passage at issue, this court construed the qualifying phrase to apply only to the immediately preceding antecedent. 130 F.3d at 1483.

In contrast, "[w]hen a modifier is set off from a series of antecedents by a comma, the modifier should be read to apply to each of those antecedents." *Kahn Lucas Lancaster, Inc. v. Lark Int'l Ltd.,* 186 F.3d 210, 215 (2d Cir. 1999), *abrogated on other grounds as recognized by Sarhank Group v. Oracle Corp.,* 404 F.3d 657 (2d Cir. 2005). But while "the meaning of a statute will typically heed the commands of its punctuation," *U.S. Nat'l Bank v. Indep. Ins. Agents of Am., Inc.,* 508 U.S. 439, 454, 113 S.Ct. 2173, 124 L.Ed.2d 402 (1993), the doctrine of the last

antecedent and its corollary, the rule of punctuation, *see Bingham, Ltd. v. United States*, 724 F.2d 921, 926 n. 3 (11th Cir. 1984), are more guidelines than absolute rules. *See Kahn*, 186 F.3d at 215 ("and in applying them we are mindful of the Supreme Court's admonition that 'a purported plain-meaning analysis based only on punctuation is necessarily incomplete and runs the risk of distorting a statute's true meaning'") (quoting *U.S. Nat'l Bank*, 508 U.S. at 454, 113 S.Ct. 2173 (1993)).

Of course, *Anhydrides* and the other cases discussed above apply the rules of English grammar to statutory construction, whereas the present dispute involves the meaning of a prior art reference. These exercises are not entirely coterminous because the meaning of a prior art reference requires analysis of the understanding of an artisan of ordinary skill. *See Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991) (to anticipate, "[t]here must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention"); *cf. In re Omeprazole Patent Litig.*, 483 F.3d 1364, 1379 (Fed. Cir. 2007) (a prior art reference must enable one of ordinary skill in the art to make the invention without undue experimentation to anticipate). In contrast, statutory construction does not include a skilled artisan component but considers instead the "object and policy" of the law. *Nat'l Bank*, 508 U.S. at 455, 113 S.Ct. 2173 (internal citations omitted). Still words, in context, receive their meaning according to their placement in grammatical structure.

Therefore, to avoid slipping into a realm of ambiguity that could render jury verdicts wholly unreviewable, this court imputes an understanding of English grammar and usage to the jury. Moreover this court consults the overall context of the passage. The passage discusses and explains the entire hierarchy of data, not isolated portions of the database. Thus, one of skill would interpret the passage broadly to present many varied options for each of the tiers under consideration. Therefore, this court perceives that the comma before "or according to a predetermined schedule" (*Videotex Architecture* at 175) refers to the general interest pages *and* the less frequently updated pages. Thus, the passage means that either tier of data repeats at particular intervals *or* according to a predetermined schedule.

This court finds more support than just the passage on page 175 to support anticipation of the dividing limitation. The very next page provides additional and unequivocal support. Figure 10.5 on page 176 discloses division into multiple tiers and scheduling of those tiers:

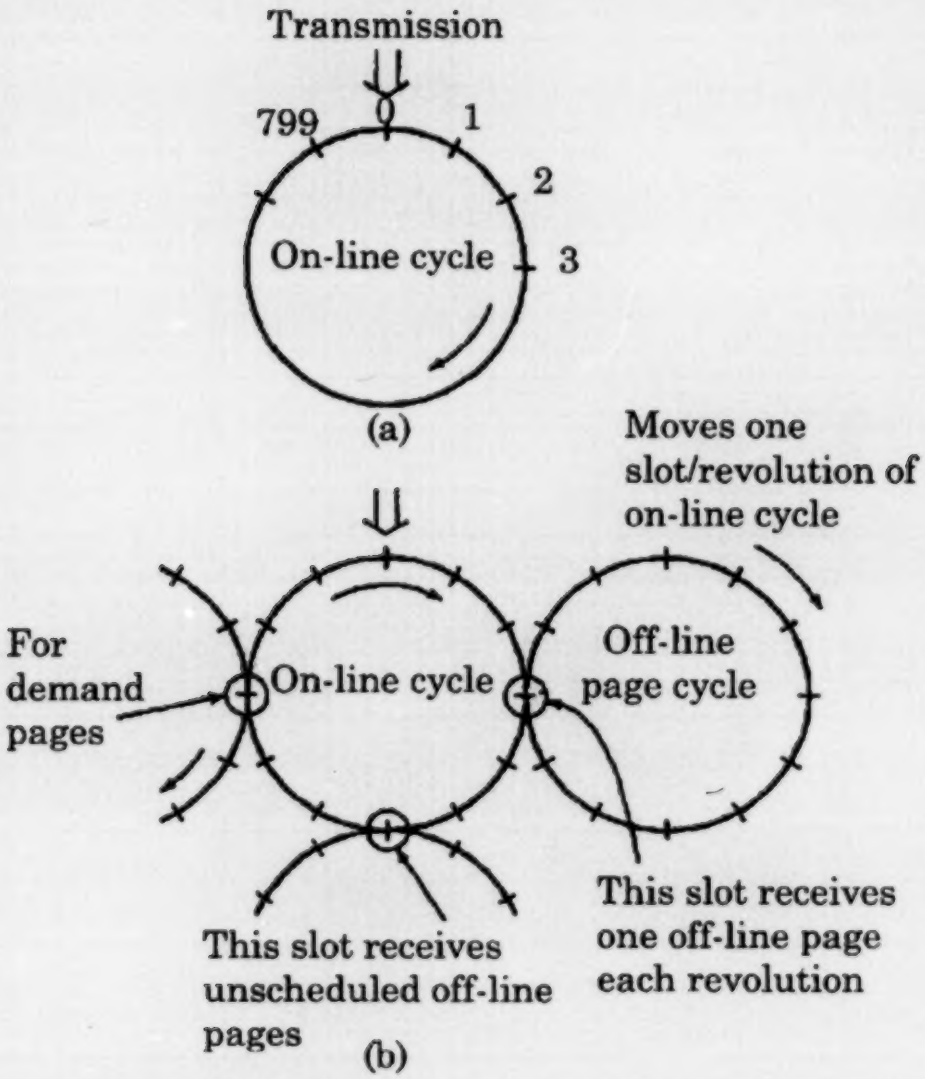

Figure 10.5 Schematic view of teletext databases: (a) simple cyclic online pages; (b) insertion of cyclic off-line, irregular offline and demand pages.

Id. at 176. The text notes that "Figure 10.5(b) is a schematic view of some cycles and 'sub-cycles' (possibly aperiodic) in teletext transmission. Other variations are also feasible." *Id.* Figure 10.5(b) thus shows scheduling of at least two tiers of varying

priorities: pages in the middle circle-the normal broadcast cycle-are transmitted more frequently than the scheduled off-line pages, represented by the circle on the right. Moreover, the reference permits precise counting of the difference in frequency or priority of transmission. The system in the reference transmits only one "slot" of scheduled off-line information per revolution of the on-line page cycle.

These two disclosures-the one on page 175 and the graphic on page 176-both fall within the same chapter subheading "10.4 Databases for Teletext," *id.* at 174, and within the same sub-subheading "Transmission Sequence," *id.* at 175. Indeed, "Transmission Sequence" consists exclusively of text on pages 174 and 175. Thus the author clearly indicated a linkage between the text on page 175 and Figure 10.5 on page 176. These passages refer to the same subject matter. Accordingly, one of ordinary skill in the art would read page 175 and Figure 10.5 on page 176 in concert.

Taken together, pages 175 and 176 clearly and convincingly teach both division of portions of the database into tiers and assignment of scheduled transmission times to portions of the database within those tiers. In other words, those passages disclose the interrelated requirements of claim 16's "scheduling," "transmitting," and "dividing" steps. On this basis, and because Finisar does not dispute that *Videotex Architecture* discloses the other limitations of claim 16, *Videotex Architecture* anticipates claim 16. No reasonable jury could have concluded otherwise. This court reverses the district

court's denial of DirecTV's JMOL motion for invalidity on the basis of anticipation of claim 16.

As for the other claims tried to the jury, claims 17, 22, 24, 26, 39, and 44, DirecTV limited its anticipation arguments in its opening brief to a single table, directing this court to various pages of *Videotex Architecture* as allegedly disclosing each of the remaining asserted claim steps. Appellant's Br. at 50-51. As discussed above with respect to claim 16, an anticipatory reference must disclose not only each limitation of the claim, *see Celeritas,* 150 F.3d at 1361, but also each of those limitations as "arranged as in the claim," *Connell,* 722 F.2d at 1548. DirecTV's table, which merely correlates claim limitations from claims 17, 22, 24, 26, 39, and 44 with corresponding pages from *Videotex Architecture,* may very well disclose at least some of these additional claim limitations. In some cases, the pages DirecTV cites for these disclosures would place them in the same sections of text as the disclosures of the claim 16 limitations discussed above, which could implicitly suggest arrangement of these disclosures as in the claims. Without further analysis of these additional claim limitations, however, this court cannot conclude from DirecTV's table alone that *Videotex Architecture* discloses the limitations of claims 17, 22, 24, 26, 39, and 44, as arranged in those claims. Therefore, in light of our holding that *Videotex Architecture* anticipates claim 16, this court vacates the district court's denial of DirecTV's motion for JMOL with respect to anticipation of claims 17, 22, 24, 26, 39, and 44, and remands for further proceedings consistent with this opinion.

4. Obviousness

"When reviewing a district court's JMOL determination as to obviousness, '[t]his court reviews a jury's conclusions on obviousness, a question of law, without deference, and the underlying findings of fact, whether explicit or implicit within the verdict, for substantial evidence.'" *Dippin' Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007) (quoting *LNP Eng'g Plastics, Inc. v. Miller Waste Mills, Inc.*, 275 F.3d 1347, 1353 (Fed. Cir. 2001)). These underlying factual findings, in turn, include the familiar *Graham* factors: the scope and content of the prior art, the differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, and secondary considerations, otherwise known as objective indicia of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966).

Because this court now reverses the district court's denial of DirecTV's motion for JMOL that *Videotex Architecture* anticipates claim 16, as a matter of law the elements of claim 16, arranged as in claim 16, are part of that prior art. Claims 17, 22, 24, and 26 all depend from claim 16, and claims 39 and 44 include some claim limitations either identical or very similar to those of claim 16. Thus, in evaluating claims 17, 22, 24, 26, 39, and 44, the district court erroneously read *Videotex Architecture* too narrowly. This court therefore vacates the district court's denial of DirecTV's motion for JMOL of obviousness with respect to claims 17, 22, 24, 26, 39, and 44, and remands for further proceedings consistent with this opinion.

5. Willfulness

In *In re Seagate Technology, LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc), this court held that "proof of willful infringement permitting enhanced damages requires at least a showing of objective recklessness." Moreover this court imposes "no affirmative obligation to obtain opinion of counsel." *Id.*

DirecTV obtained an opinion of counsel, which concluded that DirecTV did not infringe the '505 patent, but took no position on validity. Based on that opinion, DirecTV proceeded to practice its system. The district court faulted DirecTV in part for not obtaining an opinion on validity, weighing its failure to do so in Finisar's favor on the question of willfulness. But the '505 patent would only have been a problem for DirecTV if DirecTV infringed it *and* it was valid. *See Graco, Inc. v. Binks Mfg. Co.*, 60 F.3d 785, 793 (Fed. Cir. 1995) ("There is no requirement that an opinion *must* address validity to negate a finding of willful infringement.") (citation omitted) (emphasis in original). Thus a competent opinion of counsel concluding either that DirecTV did not infringe the '505 patent *or* that it was invalid would provide a sufficient basis for DirecTV to proceed without engaging in objectively reckless behavior with respect to the '505 patent.

Finisar also asserts, as evidence of willfulness, that DirecTV knew of the '505 patent as early as 1997 due to a letter sent to DirecTV's parent company. Finisar contends that DirecTV willfully "stonewalled" in

response for many years. In fact, Finisar also argues that DirecTV did not even obtain its attorney opinion letter until over a year after Finisar sent a notice letter in January 2004. The record, however, shows that Finisar responded successfully to DirecTV's laches defense by acknowledging "no evidence that Finisar reasonably should have known of its claim against DirecTV until December 2003." Under the doctrine of judicial estoppel, *see Biomedical Patent Mgmt. Corp. v. Cal. Dep't of Health Servs.*, 505 F.3d 1328, 1341 (Fed. Cir. 2007), Finisar cannot suggest that DirecTV started "stonewalling" in 1997 when even Finisar did not perceive a problem until nearly 2004. Thus, Finisar has not shown that DirecTV willfully infringed the '505 patent.

B. Finisar's Cross-Appeal

Finisar cross-appeals several of the district court's actions. After vacating the jury's verdict, this court must likewise vacate the district court's grant of a compulsory license. For the same reason, Finisar's objection to the district court's denial of injunctive relief is moot. In contrast, Finisar's cross-appeal with respect to indefiniteness is independent of the vacated jury verdict.

35 U.S.C. § 112, ¶ 2 requires that claims "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." For means-plus-function elements, which are statutorily limited to the "corresponding structure, material, or acts described in the specification and equivalents thereof," 35 U.S.C. § 112, ¶ 6, section 112, ¶ 2 requires that the

specification must permit one of ordinary skill in the art to "know and understand what structure corresponds to the means limitation." *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 949-50 (Fed. Cir. 2007) (internal citation omitted).

Claims 1, 2, 7, 9, 10, 11, and 37, each individually or by dependency, include the limitation "database editing means ... for generating ... and for embedding...." Claim 1 is representative:

> 1. An information transmission system comprising:
>
> a set of one or more computer memory devices on which is stored an information database;
>
> *database editing means*, coupled to said one or more computer memory devices, *for generating* a hierarchically arranged set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, *and for embedding* said indices in said information database ...

'505 patent, col. 17 l.68-col. 18 l.36 (emphases added).

The district court applied the presumption that the patentee's use of "means" renders this step a means-plus-function claim term, falling within the purview of § 112, ¶ 6. The '505 patent discloses very little about the purported structure corresponding to this claim term. For instance, column 6, lines 37-40, of the '505 patent recites that "software 132 (executed by CPU 120) generates a hierarchical set of indices referencing all the data in the information database

112 and embeds those indices in the information database." As the district court correctly noted, this passage provides "nothing more than a restatement of the function, as recited in the claim." *Markman Order*, 416 F.Supp.2d at 519. The specification also describes an alternate embodiment wherein a block of packet ID values are assigned to an off-line information provider, which then organizes them into a database. *See* '505 patent, col.6 ll.48-51. Once again, the district court correctly noted that this passage provides no algorithm or description of structure corresponding to the claimed function. *See Markman Order*, 416 F.Supp.2d at 519.

For computer-implemented means-plus-function claims where the disclosed structure is a computer programmed to implement an algorithm, "the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). Thus the patent must disclose, at least to the satisfaction of one of ordinary skill in the art, enough of an algorithm to provide the necessary structure under § 112, ¶ 6. This court permits a patentee to express that algorithm in any understandable terms including as a mathematical formula, in prose, *see In re Freeman*, 573 F.2d 1237, 1245-46 (CCPA 1978), or as a flow chart, or in any other manner that provides sufficient structure.

The district court correctly determined that the structure recited in the '505 specification does not even meet the minimal disclosure necessary to make the claims definite. Simply reciting "software"

without providing some detail about the means to accomplish the function is not enough. *See Aristocrat Techs. Austl. Pty v. Int'l Game Tech.*, ___ F.3d ___, 2008 U.S. App. LEXIS 6472, at *10 (Fed. Cir. Mar. 28, 2008) ("For a patentee to claim a means for performing a particular function and then to disclose only a general purpose computer as the structure designed to perform that function amounts to pure functional claiming. Because general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to 'the corresponding structure, material, or acts' that perform the function, as required by section 112 paragraph 6."). This court does not impose a lofty standard in its indefiniteness cases. *See, e.g., Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1214 (Fed. Cir. 2003). But in this case, the claims are already quite vague. Without any corresponding structure, one of skill simply cannot perceive the bounds of the invention. Thus the district court did not err in adjudging claims 1, 2, 7, 9, 10, 11, and 37 invalid for indefiniteness.

III

Because *Videotex Architecture* anticipates claim 16 and because the district court correctly determined that claims 1, 2, 7, 9, 10, 11, and 37 are indefinite, this court remands for further consideration of claims 17, 22, 24, 26, 39, and 44 only. On remand, in light of the proper construction of "downloading into a memory storage device" as well as a proper

understanding of *Videotex Architecture* as disclosing all the elements of claim 16 as arranged in claim 16, the district court will need to reevaluate both infringement and validity for these six claims.

AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED

COSTS

Each party shall bear its own costs.

APPENDIX B

In The United States District Court
for the Eastern District of Texas
Beaumont Division

Civil Action No. 1:05-CV-264

FINISAR CORP., *Plaintiff*,
v.
THE DIRECTV GROUP, INC., et al., *Defendants*.

Judge Ron Clark

Feb. 17, 2006

MEMORANDUM OPINION AND ORDER CONSTRUING CLAIM TERMS OF UNITED STATES PATENT NO. 5,404,505

CLARK, District Judge.

Plaintiff Finisar Corporation ("Finisar") filed suit against Defendants The DirecTV Group, Inc., DirecTV Holdings, LLC, DirecTV Enterprises, LLC, DirecTV Operations, LLC, DirecTV, Inc., and Hughes Network Systems, Inc. (collectively "DirecTV or Defendants") claiming infringement of United States Patent No. 5,404,505 ("the '505 patent"). The court conducted a *Markman* hearing to assist the court in interpreting the meaning of the claim terms in dispute. Having carefully considered the patent, the prosecution history, the parties' briefs, and the arguments of counsel, the court now makes the

following findings and construes the disputed claim terms as follows.

I. Claim Construction Standard of Review

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996) ("*Markman II*"). "The duty of the trial judge is to determine the meaning of the claims at issue, and to instruct the jury accordingly." *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995) (citations omitted).

"'[T]he claims of the patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) (citation omitted). "Because the patentee is required to 'define precisely what his invention is,' it is 'unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.'" *Phillips*, 415 F.3d at 1312 (quoting *White v. Dunbar*, 119 U.S. 47, 52, 7 S.Ct. 72, 30 L.Ed. 303 (1886)).

The words of a claim are generally given their ordinary and customary meaning. *Phillips*, 415 F.3d at 1312. The "ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention."[1] *Id.* at 1313. Analyzing

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[1] Based on the patent and the representations of the parties at the hearing, the court finds that in this case such a person would have at least a Bachelor's degree, with a concentration of courses in computer science, involving topics such as computer

"how a person of ordinary skill in the art understands a claim term" is the starting point of a proper claim construction. *Id.*

A "person of ordinary skill in the art is deemed to read the claim term not only in context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips,* 415 F.3d at 1313. Where a claim term has a particular meaning in the field of art, the court must examine those sources available to the public to show what a person skilled in the art would have understood disputed claim language to mean. *Id.* at 1414. Those sources "include 'words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.'" *Id.* (citation omitted).

"[T]he ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips,* 415 F.3d at 1314. In these instances, a general purpose dictionary may be helpful. *Id.*

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operation and programming, software engineering, and data transmission. Depending on the university, this might be designated by a title such as electrical engineering, computer engineering, or computer science. The person would also have a minimum of two to three years experience in the fields of data communications and software engineering.

However, the Court emphasized the importance of the specification. "[T]he specification 'is always highly relevant to the claim construction analysis. Usually it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). A court is authorized to review extrinsic evidence, such as dictionaries, inventor testimony, and learned treaties. *Phillips*, 415 F.3d at 1317. But their use should be limited to edification purposes. *Id.* at 1319.

The intrinsic evidence, that is, the patent specification, and, if in evidence, the prosecution history, may clarify whether the patentee clearly intended a meaning different from the ordinary meaning, or clearly disavowed the ordinary meaning in favor of some special meaning. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-80 (Fed. Cir. 1995). Claim terms take on their ordinary and accustomed meanings unless the patentee demonstrated "clear intent" to deviate from the ordinary and accustomed meaning of a claim term by redefining the term in the patent specification. *Johnson Worldwide Assoc., Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999).

The "'ordinary meaning' of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Phillips*, 415 F.3d at 1321. However, the patentee may deviate from the plain and ordinary meaning by characterizing the invention in the prosecution history using words or expressions of manifest exclusion or restriction, representing a "clear disavowal" of claim scope. *Teleflex, Inc. v.*

Ficosa N. Am. Corp., 299 F.3d 1313, 1327 (Fed. Cir. 2002). It is clear that if the patentee clearly intended to be its own lexicographer, the "inventor's lexicography governs." *Phillips*, 415 F.3d at 1316.

II. Claim Construction - The '505 patent

Dr. Frank Levinson is the inventor of United States Patent No. 5,404,505. The assignee is Finisar Corporation. The '505 patent describes the transfer of information, from an information database, to subscribers, upon request, through satellite transmission. In general, this involves a central supplier station sending regularly scheduled data to its subscribers via satellite. However, a portion of the available bandwidth is reserved for subscriber requested data. Here, although that data is actually broadcast to all subscribers, only those who have requested the data will have access to it (i.e., be able to view the data). There is also the possibility of remote systems (usually local programming) sending data to subscribers.

The first five disputed terms are contained in the beginning of claim 1. This section is set out below with the disputed terms in bold.

> 1. An information transmission system comprising:
>
> a set of one or more computer memory devices on which is stored an **information database**;
>
> **database editing means**, coupled to said one or more computer memory devices, **for**

> **generating a hierarchically arranged set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof**, and **for embedding** said indices in said information database.

"Information database." Used in claims 1, 2, 7, 10, 16, 17, 22, 25, 37, 39, and 44.

For this term, Finisar initially proposed "a collection of information" and gave some examples.[2] DirecTV suggested "[a] collection of non-transient data files that can be searched and retrieved." Their dispute centered on two points:

> 1. whether the data can be in several locations or must be "non-transient;" and
>
> 2. whether the definition must specify that the data can be "searched and retrieved."

Since the claim language alone does not resolve this dispute, the court looks to the specification.

The specification demonstrates that the database is not isolated. "The goal of the present invention is to provide widespread, high speed *access* to a virtual omniscient database...." '505 patent, col. 1, ll. 54-56. (emphasis added); *see also*, col. 5, ll. 12-13. The

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[2] By itself "collection of information" is not very useful. Data which has been deleted from a hard drive is a collection of information, which a forensic expert could retrieve if it has not been overwritten. But it would not be considered part of a database.

specification analogizes the system to "having access" to a large collection of books in a library, even if all books are not instantly available. '505 patent, col. 2, ll. 17-23. All of the information in the database is tagged with indices to form a hierarchical structure to provide subscribers with access to various parts of the database according to different transmission schedules. '505 patent, col. 2, ll. 52-59. Accordingly, the information database is computerized information which can be accessed in some fashion.

There is no need to impose the limitation of "searched and retrieved" which implies a more specific search and retrieval system than the claims and specification describe. Nothing in the claim or specification indicates that the database must be searchable to any particular level of specificity. For example, common legal research systems allow very narrow searches, such as by case name, by judge name, and even by a particular word. In contrast, some of the data in the '505 system can only be referenced in broader terms, such as a search for a movie by title, but not necessarily by words used in a movie or group of movies.

As to the argument that the data in the database be "non-transient," it is important to note that one skilled in the art would know that computerized information is made up of electronic impulses-the classic "ones and zeros" of the binary system. It would also be known that a database could exist on a network of computers and memory storage devices. This is described as a possible embodiment. '505 patent, col. 6, ll. 61-64. Moreover, the use of the phrase "non-transient" will likely not be helpful to a

lay jury. It is not helpful to focus on the time period during which data is being sent from the supplier station to the satellite and then to the subscriber station, as shown in Figure 1 of the patent.

This claim term will be construed as follows:

> **"information database"** means "a collection of computerized information which can be accessed."

"Set of indices for referencing data in said information database." Used in claims 1 and 37.

To one skilled in the art, the terms "index" and "indices" do not always refer to a list, such as one finds at the back of a reference book. In the context of data management, an index can be a single data item. This is how the term is used in this patent. *See* '505 patent, col. 6, ll. 31-36; *see also The IEEE Standard Dictionary: Compilation of IEEE Standard Computer Glossaries: 610* 107 (1990) (definition one).

The parties initially disputed whether an index was used to "identify and/or locate specific items of data" (Finsar's proposal), or merely to "locate specific items of data." (DirecTV's suggestion). At the hearing the following definition was discussed: "pieces of digital information, (each of which contains an identification value, and in many cases other information) used to reference specific items of information in the database." Finisar agreed with this formulation. DirecTV preferred to replace "reference" with "select."

The claim language itself is "referencing data in said information database." The patentee did not provide a special definition of "reference." There is no indication in the patent that "referencing" has any special technical meaning, or is used in any sense other than the widely accepted and commonly understood meaning of "refer to." The specification describe:

> 1. a "set of indices referencing all of the data in the information database ...."'505 patent, col. 6, ll. 38-39;
>
> 2. "a set of assigned indices to reference each distinct portion ..." of the information in the database. '505 patent, col. 13, ll. 23-24; and
>
> 3. "The indices associated with reference data ... may be embedded in various portions of the transmitted data for the purposes of cross-referencing related information."'505 patent, col. 13, ll. 33-36.

It is true that the indices may be used in various ways, such as to select data packets, col. 5, ll. 28-30, or to request data, col. 5, ll. 45-52. While various uses are illustrative, they are not needed for the jury to understand the definition, nor to describe how a person skilled in the art would understand the word. This claim term is therefore defined as follows:

> **"Set of indices for referencing data in said information database"** means "the pieces of digital information, (each of which contains an identification value plus, in many cases, other information) used to refer to

specific items of information within the database."

"Hierarchically arranged." Used in claims 1 and 16.

The specification states that all of the information in the database is "tagged" with indices to form a single hierarchical structure. '505 patent, col. 2, ll. 52-55. The purpose is to allow the subscriber to access various pieces of information in the database, which is sometimes done based upon information already accessed. Figure 9 of the patent shows various levels in a sample hierarchy. The arrows show that indices do not necessarily refer just to information in "lower" levels. Reference may be to a "higher" level. Indices may be "included in the root information (the basic information transmitted most frequently), and also may be embedded in various portions of the transmitted data for the purposes of cross-referencing related information. " '505 patent, col. 13, ll. 32-36. Therefore DirecTV's original suggestion that indices are classified into "successive levels" is not the best way to define this term.

For these reasons, and based upon counsels' representations at the hearing, this term will be defined as follows:

"Hierarchically arranged set of indices" means "the indices are placed in some order based upon logical relationships between or among the indices."

"Database editing means ... for generating ... and for embedding ..." Used in claims 1 and 37.

The parties agree, and the court finds, that this is a means-plus-function claim term, governed by 35 U.S.C. § 112(6). The claim includes the word "means," which invokes a presumption that § 112(6) applies, and it does not recite a structure for performing the claimed function to rebut the presumption. *See Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1248 (Fed. Cir. 2005). Determining the claimed function and the corresponding structure are matters of claim construction, so it is appropriate to deal with these issues at the *Markman* stage. *WMS Gaming Inc., v. Int'l Game Tech.*, 184 F.3d 1339 (Fed. Cir. 1999).

The claim clearly states, and the parties agree, that the function consists of generating a hierarchically arranged set of indices, and embedding those indices in the information database. Therefore the specification must disclose a structure that generates the indices and embeds them in the database. *See Med. Instrumentation and Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1211 (Fed.Cir.2003).

Since this function is computer implemented, the patent must disclose an algorithm to be performed by the computer to accomplish the recited function. *WMS Gaming Inc.*, 184 F.3d at 1349. This does not mean that the patentee must disclose specific source code for the computer. And, the term "algorithm" is not limited to a formula of mathematical symbols. For example, the steps, formula, or procedures to be performed by the computer might be expressed

textually, or shown in a flow chart. *See Application of Freeman,* 573 F.2d 1237, 1245-46 (Cust. & Pat. App. 1978) and cases cited therein. Under 35 U.S.C. § 112(6), the structure, in this case a computer which executes an algorithm, must be sufficiently disclosed so that one of ordinary skill in the art can determine the limitations on what is claimed. *See Budde v. Harley-Davidson, Inc.,* 250 F.3d 1369, 1381-82 (Fed. Cir. 2001); *see also In re Dossel,* 115 F.3d 942, 946-47 (Fed. Cir. 1997).

The Court in *Dossel* noted that the specification did not "disclose exactly what mathematical algorithm will be used...." *In re Dossel,* 115 F.3d at 946. However, the Court stated that the specification described a device that receives data from two sources and then "computes, from the received data, the current distribution by mathematical operations including a matrix inversion or pseudo inversion, and then outputs the result to a display." *Id.* at 946. The specification also said "'known algorithm' could be used to solve the standard equations which are known in the art." *In re Dossel,* 115 F.3d at 946. While not a precise mathematical formula or flow chart, this description is far more detailed than the bare repetition of the function in the '505 patent.

The '505 patent describes no algorithm, formula, or series of steps performed by the computer to accomplish the function of generating indices and embedding them. Finisar cites to col. 6, ll. 37-40 which states "software 132 (executed by CPU 130) generates a hierarchical set of indices referencing all the data in the information database 112 and embeds those indices in the information database."

This is nothing more than a restatement of the function, as recited in the claim.

Finisar also points to col. 6, ll. 48-51, which describes an alternate embodiment in which a block of packet ID values are assigned to an off-line information provider. That provider organizes the information and embeds the indices in the database. Aside from the fact that this appears to be an attempt to encompass human activity (e.g., decision-making by an individual), it provides no algorithm or description of a structure by which the indices are generated or embedded.

The language in these parts of the specification simply repeat the function described in the claim. Such a description of the structure is so broad as to read on any and every means for performing the recited function. The court finds that this claim term is indefinite because no structure is disclosed for performing the recited function.[3]

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[3] The court is aware that a patent is presumed to be valid. To that end the court considered whether a disclosure of a microprocessor plus software, without any algorithm other than a repetition of the function might have been sufficient in 1995 when the patent was issued. As an analogy, qualified immunity of officers is based upon the law at the time of their action, not the law at the time of trial. The Court examines patents through the eyes of one of ordinary skill in the art at the time the patent is issued, not based upon later advances of science. But even in 1995 it was clear that patentees should have known that in means-plus-function cases, where the structure linked to the recited function was a computer, the patentee had to disclose not only that there was a computer with software, but also disclose the steps, formula, or equation (the "algorithm") the software performed. *See e.g. In Re Alappat*, 33 F.3d 1526, 1543 (Fed.Cir.1994), *Freeman*, 573 F.2d at 1245-47 (1978).

"Dividing said selected portions of said information database into a prioritized set of tiers, wherein all the selected portions of said information database in each tier are transmitted at a corresponding repetition rate." Used in claims 1 and 16.

The specification describes a division of the database into "tiers" or groups for transmission at different times depending on the anticipated, and the requested, demand for the information. '505 patent, col. 13, ll. 63-col. 14, ll. 51. Root information, which provides an index to the information database, is transmitted most frequently. Depending on their priorities, other groups of the information are transmitted at less frequent intervals.

To define the term, DirecTV proposed "Exclusively partitioning those portions of the information database selected for transmission into groups of information each of which are transmitted at a specified rate." Finisar agreed to this formulation with the deletion of "exclusively" and the substitution of "designated" for "specified."

There is no indication that the word "dividing" had a special meaning to one skilled in the art. Nothing in the claim language, nor in the specification, indicates that the same information could not be part of a "first tier," transmitted, say four times an hour, and also part of a "fifth tier," transmitted perhaps only once every twenty-four hours.

DirecTV argued that the ordinary and common meaning of the word "dividing" implies an exclusive

partition. But under an "ordinary and common meaning" approach, if A is the set of all of the information in the system, it could be divided into subsets B, C, and D. Subset B could have some elements in common with C and D, while, at the same time subset C might have no overlap with D. The court concludes that adding the word "exclusively" improperly places a limit on the claim, which is found neither in the claim language nor in the specification.

The parties also differed over whether "designated repetition rate" or "specified repetition rate" should be used to define the claim term "corresponding repetition rate." The claim states that the portions of information in each tier are "transmitted at a corresponding repetition rate." Table 1 at col. 14, ll. 20-33 gives an example of tiers with corresponding rates of transmission. The specification also provides the following: "The particular repetition rates associated with each tier of data and the amount of data allocated to each tier are selectable parameters that will need to be carefully considered in order to maximize the utility of the system for most subscribers." '505 patent, col 14, ll. 37-41.

While "specified" and "designated" mean almost the same thing, they could imply, especially to a lay juror for whom the terms are defined, that there is a required or unchanging repetition rate. "Selectable" as used in the specification, implies some choice, and that change is possible. The disputed term will be defined as follows:

"Dividing said selected portions of said information database into a prioritized set of tiers, wherein all the selected portions of said information database in each tier are transmitted at a corresponding repetition rate" means "placing each part of the information database selected for transmission into one or more groups of information, and transmitting each group at a chosen repetition rate."

"Means for receiving and storing video program materials." Used in claim 10.

The parties agree this is a means-plus-function claim term. The word "means," in this claim invokes a presumption that § 112(6) applies, and the claim does not recite structure for performing the claimed function to rebut the presumption. *See Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1248 (Fed. Cir. 2005). The court must first identify the particular claimed function and then identify the corresponding structure in the specification. *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d, 1205, 1210 (Fed. Cir. 2003). The patentee must clearly link or associate the structure with the claimed function. *Elekta*, 344 F.3d at 1211.

The parties also agree that the specification discloses as structure: Conventional VHS video recorder (*see* col. 12, ll. 21 "recording"); digital tape recorder (*See* col. 12, ll. 23-24 "-downloaded"); and RAM and/or disk in the subscriber's computer (*see* col. 5, ll. 32 "-downloaded", col. 8, ll. 40-42 "-downloaded). Finisar

would include as structure the buffer and the fast disk storage device.

The specification describes storing received data packets, which could include video program materials, in a ring buffer of the data filter. '505 patent, col. 11, ll. 36-39. This storage is only temporary, for the purpose of checking the packet ID against packet ID data stored in the data filter. If the received packet is to be retained, it is "downloaded" to the subscriber's computer. '505 patent, col. 11, ll. 39-57. The specification also describes use of a fast disk storage device if longer periods of delay are needed before downloading. '505 patent, col. 11, ll. 66-col. 12, ll. 4. In particular, the specification states that larger amounts of data can be "buffered" using a fast disk storage device, as compared to using the ring buffer alone. '505 patent, col. 11, ll. 39-col. 12, ll. 8.

DirecTV argues that the ring buffer and the fast disk storage device are already identified in claim 1. Since claim 10 is dependent on claim 1, DirecTV asserts that the doctrine of claim differentiation precludes their use as structure for the function described in claim 10.

Claim 1 starts with: "An information system comprising." '505 patent, col. 17, ll. 68. The word "comprising" is open ended, meaning that the patentee claims at least what follows, and potentially more. Part of claim 1 is "subscriber stations ... each subscriber station including a data filter...." '505 patent, col. 18, ll. 28-30. The data filter is diagramed in figure 7 and described at col. 11, ll. 34-52. It is

clear from claim 1, and from the specification, that each subscriber station has a data filter, and, in the described embodiment, each data filter has a ring buffer. However, claim 1 does not require a ring buffer or a fast disk storage device. Moreover, claim 10 is differentiated from claim 1 by the limitations set out in claim 9, and by the additional limitations of claim 10 itself.

A means-plus-function claim term encompasses each structure in the specification that performs the recited function. *Micro Chem. Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999). Although "buffering," "recording," and "downloading" may refer to specific forms of "storing," each appears to meet the recited function of "storing." Hence, this term will be defined as follow:

> **"means for receiving and storing video program materials"** can be: "1. A ring buffer with or without additional random access memory; 2. Fast disk storage device; 3. Conventional VHS video recorder; 4. Random access memory and/or disk; 5. Digital tape recorder."

"Downloads into a memory storage device those of said received data packets which match said specified set of requested data packets." Used in claims 1, 16, 37, 39, and 44.

This dispute is somewhat unusual in that it does not depend on definitions of technical terms, but rather on grammatical construction. The parties agree that "downloads" means "transfers." They also agree that

what is transferred are data packets, and that the data packets are transferred to a memory device.

The claim states that the data filter is part of the subscriber station, and that the data filter stores filter data. *See* Claim 1, '505 patent, col. 18, ll. 28-30. The filter data specifies the requested data packets. col. 18, ll. 31-33. The specification describes this process in more detail, but gives no indication that the claim language should be given anything but the ordinary and customary meaning. *See* col. 8, ll.37-46, col. 11. ll. 34-57 and Figure 7.

Finisar argues that the data packets to be transferred are "specified" by the filter data. DirecTV argues that the data filter actually transfers the data packets to the memory device. Both are, in a sense, correct.

Claim terms are to be read according to the rules of ordinary English grammar. *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983). Accordingly, it is the data filter "that stores filter data ... and that downloads into a memory storage device ..." the data packets. col. 18, ll. 30-35. On the other hand, the claim and specification also make it clear that the data packets to be downloaded are those specified or requested in the filter data. This term will be defined as follows:

> **"Downloads into a memory storage device those of said received data packets which match said specified set of requested data packets"** means "the data filter transfers into a memory storage device the data packets specified in the filter data."

"Transmission bandwidth." Used in two claim terms:

> **11a.** "wherein a portion of the **transmission bandwidth** available to said transmitter is **reserved** for transmitting portions of said information database requested by subscribers." Used in claim 7.
>
> **11d.** "wherein said scheduling step includes **reserving** a portion of **transmission bandwidth** available for said transmitting step for transmitting portions of said information database requested by subscribers." Used in claim 22.

The patent describes a system that divides available bandwidth into tiers and transmits information at different repetition rates depending on the demand for, or anticipated demand for, the information. Part of the bandwidth is reserved "for satisfying requests for access to information not provided with the basic subscriber service." *See* '505 patent Abstract col. 3, ll. 5-10.

The only dispute between the parties is that DirecTV believes the reserved portion of the transmission bandwidth is to be used only to respond to direct requests from subscribers. Finisar argues that the reserved portion of the bandwidth may be used to provide information requested by subscribers on a general, or long term basis, as well as for responses to particular requests.

The language of this claim phrase is clear and straightforward-part of the transmission bandwidth, or transmission capacity, available to the transmitter is reserved, or set aside, for transmitting portions of the information database that have been requested by subscribers. The parties appear to be focused on whether "requests" by a subscriber are "direct" requests or "general" or "long term" requests. The specification indicates that requested data may be included in the basic subscriber service. '505 patent, col. 5, ll. 45-65. The specification also indicates that subscriber-requested data is transmitted "in the portion of the ... bandwidth that is not used for transmitting the regularly scheduled basic programming." '505 patent, col. 4, ll. 55-65. Hence, whether data is "requested" does not appear to depend on whether the request is "direct," "general," or "long term." Rather, requested data is simply data a subscriber has asked to have access to, without regard for whether the request is "direct," "special," "long term," or "general." There is no basis for limiting the use of transmission bandwidth which is "reserved," to direct responses to one time requests for information. Moreover, this claim phrase does not exclude also providing "requested" data using bandwidth that is not reserved. This term will be defined as follows:

> **"Transmission bandwidth" is "reserved"** by setting aside part of the transmission capacity for transmitting portions of the information database that are requested by subscribers.

"Transmission times" as used in two claim terms:

> **11b.** "transmission scheduler **reserves transmission times** for transmitting portions of said information database requested by subscribers." Used in claim 37; and
>
> **11c.** "said transmitting step including transmitting said requested portions of said information database during said **reserved transmission times.**" Used in claim 44.

The parties agree that "reserving transmission times" means setting aside transmission times. Again the question is whether or not time has to be reserved in direct response to a request. This would imply that time was reserved only if a subscriber called in and requested certain information. That may be one embodiment, but, as DirecTV agrees, the "reserved" phrases used in the claims do not explicitly state that any action will be "in response to" subscriber request. DirecTV Brief, p. 29.

As with the earlier phrases, the plain language of the claim phrase simply provides that transmission time is set aside for transmitting data requested by subscribers. Nothing in this language limits the "request" to any particular type, nor does the language prohibit transmission of data during "unreserved" times. As pointed out above, data "requested" by a subscriber may be included in the basic subscriber service. '505 patent, col. 5, ll. 45-65.

This term will be defined as follows:

"Transmission times" are **"reserved"** by setting aside time for transmitting portions of the information database that are requested by subscribers.

"Transmission channels" used in claims 9, 10, 24, and 25.

This disputed term appears in claim 9, which is dependent on claim 1, and in claim 10, which is dependent on claim 9.

> 9. The information transmission system of claim 1, wherein said transmitter transmits said data packets using multiple **transmission channels.**
>
> 10. The information transmission system of claim 9, wherein ... said transmitter transmits data packets containing at least selected portions of said video program materials on at least one of said multiple **transmission channels** and primarily non-video information on at least one other one of said multiplicity of **transmission channels;**

The term also appears in almost identical language in claim 24, which is dependent on claim 16, and in claim 25, which is dependent on claim 24.

One of ordinary skill in the art would understand that, depending on the context, "channel" as used in the field of data transmission could have two meanings. Sometimes "channel" is used to refer to a band of frequencies of a determined width, measured

in megahertz. (MHz). This is the way "channel" is commonly used when referring to common T.V. or radio channels. DirecTV argues that these claims should be limited to this construction.

But multiple "channels" can be carried on a single frequency using a technique called time division multiplexing ("TDM"). In this process, a transmission path (a frequency) is divided into time slots to carry data from several sources at the same time. For example, data from each of three sources is divided into a series of short pieces or "frames" each of which will fit into a time slot. The first piece of data from the first source is transmitted in the first time slot. The first piece of data from the second and third data sources follow in time slots two and three respectively. This sequence is repeated for the second, third and succeeding pieces of data from each source. In effect all three sources of data are transmitted on one path, but in different, time differentiated "channels."

Finasar argues that "transmission channels" as used in these claims, encompasses both kinds of "transmission channel." The various technical dictionaries and references noted in the parties' briefs describe "channel" in both ways. But, contrary to Finisar's arguments, just because a word can be used in two or more ways, does not mean that it was. The issue is: what is meant by "transmission channels" in these particular claims?

This issue illustrates the tension between understanding the meaning of a claim term in the context of the specification, and incorporating

limitations from a disclosed embodiment into the claims. In this case, more than one embodiment is described in the specification. The preferred embodiment is a single channel implementation, and at least one other embodiment is a multiple channel implementation. Several of the dependent claims appear to be directed specifically to a multiple channel implementation. But, although the specification describes at least two embodiments, the terms "channel," and "transmission channel" are consistently used to describe a band of frequencies. In fact, the specification distinguishes between a time division multiplexed "time slot" and a "channel" or "transmission channel."

The specification identifies the one-channel implementation as the "preferred embodiment." '505 patent, col. 4, ll. 65-col. 5, ll. 1-2. The specification indicates that satellite transmission channels can be used for different geographical areas. '505 patent, col. 5, ll. 2-5, and it refers to a "single satellite channel," suggesting a single band of frequencies rather than a single TDM time slot in a band of frequencies. '505 patent, col. 5, ll. 23-26. When "multiple transmission channels" are used, the subscriber stations "change the transmission channel being monitored" ('505 patent, col. 7, ll. 27-36), and the satellite receiver must be told which channel should be selected ('505 patent, col. 12, ll. 29-36). Bandwidth in a single channel transmission system may be subdivided into tiers, with 25% of the available bandwidth being reserved. '505 patent, col. 13, ll. 67-col. 14, ll. 37. The "bandwidth of a channel" ('505 patent, col. 14, ll. 36) may be subdivided by

TDM, suggesting a distinction between channel and TDM time slot.

This suggestion is much more explicit when the specification describes video programming, described as "a classic problem in that it tends to occupy large amounts of bandwidth." '505 patent, col. 16, ll. 46-48. The specification states that "in the preferred embodiment most video programming is transmitted on a separate channel." '505 patent, col. 16, ll. 54-56. This sentence is useless surplusage if "separate channel" refers to TDM. Of course the video programs have to be separated from other data. If only one frequency divided "channel" is being used, there would be no way to transmit the video programs separately, other than with TDM.

The specification then states that on this "separate channel" it would be "possible to use time multiplexing so as to transmit six video programs ... simultaneously." '505 patent, col. 16, ll. 57-60. One of ordinary skill in the art would know that TDM could be used to transmit several programs on one frequency "channel" so there would have been no need to refer to the "separate channel" if it did not mean another frequency.

Claims 10 and 25 are clarified, when read in the context of the portions of the specification discussed above. Both of these claims describe transmitting video programming on "at least one of said multiple transmission channels" and transmitting "primarily non-video information on at least one other one of said multiplicity of transmission channels." '505 patent, col. 19, ll. 66-col. 20, ll.3 and col. 23, ll. 7-12.

What is the purpose of these dependent claims if "transmission channels" refers to TDM?

Hence, although the term "channel" may, in some contexts, apply to a time multiplexed slot on a band of frequencies, the specification of the '505 patent clearly distinguishes between a time multiplexed slot and a band of frequencies, with the latter being referred to as a "channel" or "transmission channel."[4] Therefore this claim term will be defined as follows.

> **"transmission channels"** means "paths for transmitting electronic signals which are differentiated by their frequencies."

III. Conclusion

The jury shall be instructed in accordance with the court's interpretation of the disputed claim terms in the '505 patent.

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[4] The Court need not decide whether the term "channel" would properly apply to a TDM time slot in another context.

APPENDIX C

In The United States District Court
for the Eastern District of Texas
Beaumont Division

Civil Action No. 1:05-CV-264

FINISAR CORP., *Plaintiff*,
v.
THE DIRECTV GROUP, INC., et al., *Defendants*.

Judge Ron Clark

May 2, 2006

ORDER GRANTING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF INVALIDITY OF CLAIMS 1, 2, 7, 9, 10, 11, AND 37

CLARK, District Judge.

Before the court is Defendants' Motion for Summary Judgment of Invalidity of Claims 1, 2, 7, 9-11, and 37 [Doc. #68]. The court held claims 1 and 37 indefinite in its *Markman* Order. Defendants now move for summary judgment that these claims and dependent claims 2, 7, 9, 10, and 11 be held invalid. The court grants Defendants' motion.

I. Background and Technology

Plaintiff Finisar Corp. ("Finisar") alleges that Defendants The DirecTV Group, Inc., DirecTV Holdings, LLC, DirecTV Enterprises, LLC, DirecTV

Operations, LLC, DirecTV, Inc., and Hughes Network Systems, Inc. ("DirecTV") infringed on United States Patent No. 5,404,505 ("the '505 patent").

Dr. Frank Levinson is the inventor of United States Patent No. 5,404,505. The assignee is Finisar Corporation. The '505 patent describes the transfer of information, from an information database, to subscribers, upon request, through satellite transmission. In general, this involves a central supplier station sending regularly scheduled data to its subscribers via satellite. However, a portion of the available bandwidth is reserved for subscriber requested data. Here, although that data is actually broadcast to all subscribers, only those who have requested the data will have access to it (i.e., be able to view the data). There is also the possibility of remote systems (usually local programming) sending data to subscribers.

The court conducted a *Markman* hearing and issued a Memorandum and Opinion Construing Claim terms of United States Patent No. 5,404,505 [Doc. #57] ("Mem. Op.") February 17, 2006. The court held Claims 1 and 37 to be indefinite. DirecTV now moves for the court to hold them invalid. Finisar's response suggests that the definiteness issue might be a factual one.

II. Analysis

A. Invalid for Indefiniteness

The law presumes a patent to be valid. It is DirecTV's burden, to prove by clear and convincing evidence, that the patent or one or more of its claims is invalid. 35 U.S.C. § 282; *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003). Whether a means plus function claim of a patent is indefinite for failure to disclose a corresponding structure under 35 U.S.C. § 112(6), is a question of law. *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). The Court has already held that Claims 1 and 37 are indefinite. Mem. Op. p. 8-10. Claims are invalid if they fail to meet the requirements of § 112. *See Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1114 (Fed. Cir. 2002). Because the independent claims 1 and 37 are invalid, any dependent claims are also invalid. Claims 2, 7, 9, 10, and 11 are dependent upon claim 1 and incorporate any limitations of claim 1. *See* 35 U.S.C. § 112. For the reasons set out its prior opinion, Claims 1 and 37 are indefinite. Accordingly Claims 1, 2, 7, 9, 10, 11, and 37 are invalid as a matter of law.

Finisar's response rehashes its original arguments made at the *Markman* hearing and in its supplemental briefs and motion to reconsider. To the extent Finisar is arguing that the issue of definiteness in this case is a factual one for the jury, the court disagrees.

IT IS THEREFORE ORDERED that Defendants' Motion for Summary Judgment of Invalidity of Claims 1, 2, 7, 9-11, and 37 **[Doc. #68]** is **GRANTED**.

APPENDIX D

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2007-1023, 2007-1024

FINISAR CORPORATION,

Plaintiff-Cross Appellant,

v.

The DIRECTV Group, Inc., DIRECTV Holdings LLC, DIRECTV Enterprises LLC, DIRECTV Operations LLC, Hughes Network Systems, Inc., and DIRECTV, Inc.,

Defendants-Appellants.

Appeals from the United States District Court for the Eastern District of Texas in Case No. 1:05-CV-00264, Judge Ron Clark

ORDER

NOTE: This order is nonprecedential

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

ORDER

A combined petition for panel rehearing and for rehearing en banc having been filed by the Cross-Appellant, and the petition for rehearing, having been referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for panel rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the petition for rehearing en banc be, and the same hereby is, DENIED.

The mandate of the court will issue on June 5, 2008.

FOR THE COURT,

/s/ Jan Horbaly

Jan Horbaly
Clerk

Dated: 05/29/2008

cc: Gregory A. Castanias
Larry R. Laycock

Supreme Court, U.S.
FILED
NOV 5 - 2008
OFFICE OF THE CLERK

No. 08-445

IN THE

Supreme Court of the United States

FINISAR CORPORATION,

Petitioner,

v.

THE DIRECTV GROUP, INC., DIRECTV HOLDINGS LLC, DIRECTV ENTERPRISES LLC, DIRECTV OPERATIONS LLC, HUGHES NETWORK SYSTEMS, INC., AND DIRECTV, INC.,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF IN OPPOSITION

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November 5, 2008

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QUESTION PRESENTED

Under 35 U.S.C. § 112, ¶ 6, a patented device or system may be claimed as containing one or more components defined in terms of their function instead of their structure, but only if the patent's specification describes in sufficient detail a structure designed to perform the claimed function. Unless this requirement of § 112, ¶ 6 is met, the claim violates the rule that patent claims must "particularly point[] out and distinctly claim[]" the invention. 35 U.S.C. § 112, ¶ 2.

The patent at issue in this case, which describes an information broadcasting system that gives subscribers access to information via high-speed satellite or cable links, claims the system as containing a means "for generating a hierarchically arranged set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and for embedding said indices in said information database." The patent specification merely repeats the claimed generating-and-embedding function and states that this claimed function will be performed by a general-purpose computer with "software," without providing any description of the software or how the computer should be programmed to perform the claimed function. The question presented by these facts is whether these particular patent claims violate § 112, ¶ 6's requirement that the specification sufficiently describe a structure for performing the claimed function.

CORPORATE DISCLOSURE STATEMENT

Liberty Media Corporation owns more than ten percent of The DIRECTV Group, Inc. stock. No entities other than the named respondents own ten percent or more of the stock of any respondent.

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BRIEF IN OPPOSITION

Respondents The DIRECTV Group, Inc., DIRECTV Holdings LLC, DIRECTV Enterprises LLC, DIRECTV Operations LLC, Hughes Network Systems, Inc., and DIRECTV, Inc. respectfully request that the Court deny Finisar Corporation's ("Finisar") petition for a writ of certiorari for four basic and fundamental reasons:

First, the decision below, a factbound application of longstanding law, was correct.

Second, the petition demonstrates no conflict. Rather, the Court of Appeals' decision is consistent with prior precedent.

Third, although Finisar's petition seeks to have the petition in another case (*Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, No. 08-446 (U.S. filed Oct. 3, 2008)) granted, and Finisar's own petition held, the principal argument made by the petitioner in that other case was waived there, and Finisar itself never raised that argument in this case. As a result, the courts below in both cases never considered that argument, which makes it inadvisable for this Court to take up the issue without the benefit of prior adversarial treatment and decision.

Fourth, this case is a poor vehicle for resolving any question relating to the patent claims at issue, in view of ongoing proceedings in the district court and in the U.S. Patent and Trademark Office ("PTO").

In short, Finisar has presented no compelling reason for certiorari.

REASONS FOR DENYING THE WRIT

I. The Court Of Appeals' Decision Was Correct

The Federal Circuit's decision in this case, which applied longstanding law to the claim language of a particular patent, was correct. The patent at issue, U.S. Letters Patent No. 5,404,505 ("the '505 patent"), describes an information broadcasting system that allows subscribers to access information via high-speed satellite or cable links. Seven system claims (claims 1, 2, 7, 9, 10, 11, and 37) in the '505 patent contain a "means-plus-function" clause claiming a means "for generating a hierarchically arranged set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and for embedding said indices in said information database." Because the claims contain such a "means-plus-function" clause, 35 U.S.C. § 112, ¶ 6 applies. That provision requires the patent's specification to describe in sufficient detail the structure designed to perform the claimed function. (The specification is the portion of the patent that both precedes and includes the claims. 35 U.S.C. § 112, ¶¶ 1-2.) Applying § 112, ¶ 6, the Court of Appeals affirmed the district court's judgment and held that the '505 patent specification, which refers only to implementation of the claimed function on an undefined "computer" with undefined "software," does not provide sufficient structure and therefore the claims are invalid for indefiniteness. The court's decision was correct.

Section 112, ¶ 6 was included in the 1952 Patent Act as a response to the Court's decision in 1946 holding it improper to claim a device, system, or other thing in terms of its function (what the

invention does) rather than in terms of its structure (what it is). *See Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946). In *Halliburton*, the Court reasoned that such functional claiming renders a patent claim indefinite because it fails to adequately define the alleged invention to warrant the protection of a patent. *See id.* at 13. As the Court explained, a patent awarded for a device or system claimed in terms of a function rather than a structure would extend the patent's exclusionary force to any and all later inventions of devices or systems that perform that function—improperly allowing a patent applicant to "obtain greater coverage by failing to describe his invention than by describing it as the statute commands." *Id.* at 12-13.

The inclusion of the means-plus-function provision in the Patent Act of 1952 overruled *Halliburton* by allowing functional claiming of devices or systems, but it did not overlook this Court's objection in *Halliburton* to broad functional claiming. *See* 35 U.S.C. § 112, ¶ 6. Thus, § 112, ¶ 6 permits a patent applicant to claim a device or system as containing one or more components in terms of their function, but only if the specification adequately describes the structure intended to perform the claimed function. *Id.* (requiring "corresponding structure, material, or acts" to be set forth in the specification). In other words, the patent's specification must elaborate on what structure is contemplated to perform the claimed function so that the patent does not occupy more of the field of art than what has truly been invented. If the specification discloses sufficient structure, the claim is "construed to cover" that structure "and equivalents thereof," thereby transforming the functional words used in the claim

into a structural definition of the patented invention. *Id.*

In essence, the structure requirement of § 112, ¶ 6 strikes a bargain with patent applicants who want to use the means-plus-function format to describe their inventions. *See Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 27-28 (1997). To enjoy the convenience of functional claiming, and to benefit from the fact that the claim will be construed to cover the specification's description of structure and equivalents of that structure, the patent applicant must adhere to his or her end of the bargain by describing sufficient defining structure in the specification. *See* 35 U.S.C. § 112, ¶ 6; *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc) ("[I]f one employs means-plus-function language [per § 112, ¶ 6] in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language.").

In paragraph 2 of § 112, the Patent Act sets forth a definiteness requirement, which applies to all types of patent claims, including means-plus-function claims. Under this requirement, a claim must "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2. Otherwise, the claim is invalid. The structure requirement of § 112, ¶ 6 effectuates the definiteness requirement of § 112, ¶ 2. *See In re Donaldson*, 16 F.3d at 1195; *In re Lundberg*, 244 F.2d 543, 547 (C.C.P.A. 1957). For a means-plus-function claim, therefore, "[i]f an applicant fails to set forth an adequate disclosure [pursuant to the structure requirement of § 112, ¶ 6], the applicant has in effect failed to particularly point

out and distinctly claim the invention as required by the second paragraph of section 112." *In re Donaldson*, 16 F.3d at 1195; *id.* (explaining that the structure "show[s] what is meant" by the claim).

The definiteness requirement, and its embodiment in paragraph six's structure requirement, play an important role in patent law—one noted in *Halliburton*. *See* 329 U.S. at 10. In light of a patent holder's right to exclude, which is an "exception to the general rule against monopolies," competitors and other members of the public have "a paramount interest" in requiring precise claiming to keep patents "within their legitimate scope." *Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806, 816 (1945). The structure requirement carries out this public interest in clearly defined claims. *See Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1220 (Fed. Cir. 2003) ("The public should not be required to guess as to the structure for which the patentee enjoys the right to exclude.").

In the particular factual context of this case—involving a set of computer-implemented means-plus-function claims—the Court of Appeals correctly held that "the patent must disclose, at least to the satisfaction of one of ordinary skill in the art, enough of an algorithm to provide the necessary structure under § 112, ¶ 6." (Pet. App. 36a.) This holding follows well-established precedent. *See Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) ("In cases involving a computer-implemented invention in which the inventor has invoked means-plus-function claiming, this court has consistently required that the

structure disclosed in the specification be more than simply a general purpose computer or microprocessor."); *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005) ("A computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm."); *Tehrani v. Hamilton Med., Inc.*, 331 F.3d 1355, 1362 (Fed. Cir. 2003) ("[T]he structure corresponding to the processing function is the disclosed microprocessor that is programmed to perform the disclosed algorithm."); *Creo Prods. v. Presstek, Inc.*, 305 F.3d 1337, 1345 (Fed. Cir. 2002) ("[A] computer-implemented means-plus-function claim is limited to a computer programmed to perform the algorithm disclosed in the specification."); *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999) ("In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.").

Some sort of algorithm is required to provide definiteness for a computer-implemented means-plus-function claim because, absent an algorithm, "a general-purpose digital computer [is] but a storeroom of parts and/or electrical components." *In re Prater*, 415 F.2d 1393, 1403 n.29 (C.C.P.A. 1969); *WMS Gaming*, 184 F.3d at 1348 & n.3 (a general-purpose computer "contains a myriad of interconnected transistors that operate as electronic switches" and the algorithm causes those switches to operate in a particular way); *see generally Gottschalk v. Benson*,

409 U.S. 63, 65 (1972) ("The general-purpose computer is designed to perform operations under many different programs."). Without more, the computer remains an undefined "black box," lacking sufficient defining structure to satisfy § 112, ¶ 6. *See* Pet. App. 37a; *see also Aristocrat*, 521 F.3d at 1333; *WMS Gaming*, 184 F.3d at 1348.

Nothing magical, formal, or burdensome is involved in disclosing an algorithm; the requirement is "not . . . a lofty standard." (Pet. App. 37a.) Rather, only "enough of an algorithm" to provide sufficient definition of structure is required. (Pet. App. 36a.) As the Court of Appeals observed, the applicant may "express that algorithm in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in *any other manner that provides sufficient structure*." *Id.* (emphasis added); *see also Med. Instrumentation*, 344 F.3d at 1214 (dispensing with the need to disclose "the specific program code"); *In re Dossel*, 115 F.3d 942, 946-47 (Fed. Cir. 1997) (holding that disclosure of an exact mathematical algorithm is not required); *In re Noll*, 545 F.2d 141, 149 (C.C.P.A. 1976) (holding that there is no need to disclose "the detailed internal structure of the computer as programmed"). The point is that an algorithm is what provides structure to the general-purpose computer, transforming it from an undefined means that can do virtually anything to the definite structure of a computer with a particular purpose (*i.e.*, a special-purpose computer); this, in turn, provides the public with notice of the bounds of the patent's exclusionary rights.

Finisar contends that the Court of Appeals' ruling overlooks that one skilled in the art may know how to

implement an algorithm for a given function. (*See* Pet. 19-20.) In making this argument, Finisar improperly conflates the "enablement" requirement of § 112, ¶ 1 with the definiteness requirement of § 112, ¶¶ 2 and 6. Under the enablement requirement, an applicant must provide enough details in the patent specification to make it possible for a skilled worker to make and use the claimed device. *See* 35 U.S.C. § 112, ¶ 1 (requiring the specification to "contain a written description . . . as to enable any person skilled in the art to which it pertains . . . to make and use the same"). In contrast, the definiteness requirement compels the applicant to particularly point out and distinctly define the structure of the invention claimed, either within the claim itself or (where paragraph 6 is invoked) within the part of the specification linked to that claim. The definiteness requirement ensures that "one of skill in the art would understand the *specification itself* to disclose a structure, not simply [that] that person would be capable of implementing a structure." *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007) (emphasis added). Where the specification discloses only a "computer" without any further elaboration, such as a described algorithm for programming the computer, the public cannot possibly know what is being claimed by the patentee with the powerful right to exclude.

The seven computer-implemented means-plus-function claims at issue here failed this basic test. It is undisputed that the '505 patent specification simply mentions a "CPU" (*i.e.*, a central processing unit or general-purpose computer, *see* Pet. 6) having "software" and fails to disclose any algorithm under which that computer operates. The Court of Appeals

correctly held that, without any algorithm (let alone "enough of" one, Pet. App. 36a), the claims are invalid for indefiniteness.

Each claim at issue includes a means-plus-function clause that requires a "database editing means" for performing the function of "generating a . . . set of indices" and "embedding [those] indices in [the] information database." ('505 Patent at 17:68-18:9; *see* Pet. App. 35a.) The means-plus-function clause in independent claim 1 is representative:

> database editing means, coupled to said one or more computer memory devices, for generating a hierarchically arranged set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and for embedding said indices in said information database.

('505 Patent at 17:68-18:9; *see* Pet. App. 35a.) Dependent claims 2, 7, 9, 10, and 11 contain the same limitation, and the means-plus-function limitation in independent claim 37 is also identical, except that it omits "hierarchically arranged." ('505 Patent at 29:56-64; *see* Pet. App. 35a.)

Rather than provide structural substance to the functional limitation of "database editing means," the specification merely repeats the claimed function. The sole passage in the specification that corresponds to the claimed function is this: "software 132 (executed by CPU 130) generates a hierarchical set of indices referencing all the data in the information database 112 and embeds those indices in the information database." ('505 Patent at 6:37-40; *see* Pet. App. 35a-36a, 50a.) As a side-by-side comparison shows, other than mentioning that a

general-purpose computer with "software" of unspecified characteristics will implement the function, the specification merely restates the function recited in the claims:

Claim Language ('505 Patent at 18:3-9)	Specification ('505 Patent at 6:36-40)
database editing means, coupled to said one or more computer memory devices, for generating a hierarchically arranged set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and for embedding said indices in said information database;	More specifically, software 132 (executed by CPU 130) generates a hierarchical set of indices referencing all the data in the information database 112 and embeds those indices in the information database.

The mere repetition of the generating-and-embedding function, performed on an undefined general-purpose computer with undefined "software," does not disclose to the public what was ostensibly invented and covered by the claim. (Pet. App. 36a.) Regarding the specification's reference to a computer, given that the "database editing means" must be "coupled to . . . one or more computer memory devices," it is difficult to imagine that anything *but* a computer of some sort could possibly provide that "database editing means." And the specification's reference to undefined "software 132" does not provide any additional meaning. The specification

provides no description whatsoever of how the software generates and embeds the indices. Indeed, from the summary-judgment record below, it is not even clear that software accomplishing the generating-and-embedding function *could* actually be built. *See* Declaration of Expert Witness Dr. Martin Rinard at 2-3, *Finisar Corp. v. DIRECTV Group, Inc.*, No. 1:05-cv-0264, Docket No. 39, Ex. 9 (E.D. Tex. Dec. 19, 2005) (noting "fundamental and currently unsolved problems in computerized information organization and understanding" pursuant to which he "would not know how to build" the necessary "software"). As the Court of Appeals explained, "[s]imply reciting 'software' without providing some detail about the means to accomplish the function is not enough." (Pet. App. 36a-37a.) The specification lacks sufficient structure.

In short, by "provid[ing] nothing more than a restatement of the function, as recited in the claim," the patent "does not even meet the minimal disclosure necessary to make the claims definite." (Pet. App. 36a.) The Court of Appeals correctly affirmed the district court's judgment that the claims are invalid for indefiniteness.

II. The Court Of Appeals' Decision Is Consistent With Prior Precedent, And Any Alleged Differences In The Cases Are Grounded In Their Facts

Finisar challenges the Court of Appeals' decision as creating an intra-circuit conflict. (Pet. 11-20.) The argument is without merit. For one, intra-circuit conflicts are usually "deemed an intramural matter to be resolved by the Court of Appeals itself," and not an appropriate matter for this Court's certiorari

review. John M. Harlan, *Manning the Dikes*, 13 Rec. N.Y.C. B. Ass'n 541, 552 (1958); *cf. Davis v. United States*, 417 U.S. 333, 340 (1974). For another, no conflict actually exists. In issuing a unanimous panel decision and summarily denying rehearing *en banc* without even requesting a response, the Court of Appeals adhered to long-established law on definiteness and means-plus-function claiming in general, and to computer-implemented means-plus-function claims in particular. *See supra* at pp. 2-7.

The alleged differences in circuit precedent are nothing more than different results on differing facts. *See In re Dossel*, 115 F.3d at 946-47 (basing conclusion that means-plus-function claims were definite on "the specific facts in this case"). Because an algorithm is not a magical, formal, or "lofty" requirement (Pet. App. 37a), a fact-intensive inquiry determines whether "enough of an algorithm" is disclosed in the specification to give structure and satisfy § 112, ¶ 6. Pet. App. 36a; *accord Med. Instrumentation*, 344 F.3d at 1214; *In re Dossel*, 115 F.3d at 946-47; *In re Noll*, 545 F.2d at 149-50. The facts of each case control the outcome—in some of the cases cited by Finisar, some sort of algorithm *was* disclosed; in others, the decision turned on issues other than the adequacy of an algorithm. *See Aristocrat Techs. Austl. Pty Ltd. v. Multimedia Games, Inc.*, 266 F. App'x 942, 947-48 (Fed. Cir. 2008) (disclosure of a "pseudo-random number generating algorithm" could be sufficient if the particular steps "are readily apparent to a person of skill in the art or are disclosed in the specification"); *Med. Instrumentation*, 344 F.3d at 1211 (addressing the separate question whether the specification "clearly links or associates software" with the claimed

function); *In re Dossel*, 115 F.3d at 946-47 (addressing the separate question whether the *computer* was adequately disclosed; there was no issue concerning an algorithm because the specification disclosed particular steps that the device would perform, including steps for data inputs, computation, and data outputs); *In re Noll*, 545 F.2d at 149-50 (disclosure of a "specified programmed" computer was sufficient); *CIVIX-DDI, LLC v. Microsoft Corp.*, 84 F. Supp. 2d 1132, 1147 (D. Colo. 2000) (sufficient disclosure because the specification "discloses the functions of" software step-by-step).

Finisar's attempt to manufacture a conflict between decisions involving computer-implemented technology and those in other areas of technology (*see* Pet. 14-17) is without basis. Regardless of the technology, the same legal requirements have been applied: sufficient structure must be disclosed to define the claim. That inquiry depends on the specific factual circumstances of each case. For example, a functional claim limitation linked to a "selector" has been found to comply with § 112, ¶ 6 because a selector has well-known structure, inherently limiting (and thus defining) that term. *See S3 Inc. v. nVIDIA Corp.*, 259 F.3d 1364, 1370 (Fed. Cir. 2001) (noting that a selector "is a standard electronic component whose structure is well known in this art" and has "standard components [that] are usually represented in the manner shown in the [patent-in-suit]"); *see also Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1360, 1365-66 (Fed. Cir. 2003) (disclosure of a "core logic of a computer adapted to perform Fast Write" and "the protocol used to perform Fast Write" was sufficient structure for more general functions of "writ[ing] data" and

"determin[ing] whether data is able to be written" (emphasis omitted)). Unlike that disclosed "selector," a general-purpose computer, mentioned without any description of its particular programming, has no well-known structure. *See WMS Gaming*, 184 F.3d at 1403 n.3 (explaining that the internal structure of a computer changes when programmed by different software instructions); *In re Prater*, 415 F.2d at 1394 n.29 (noting that a general purpose computer is just "a storeroom of parts and/or electrical components"). For a "computer" to have sufficient structure, enough of an algorithm must be disclosed to define that general term.

The various factual differences among the Court of Appeals' decisions do not warrant this Court's review. Indeed, when certiorari review of one such factual scenario was recently sought, the Court denied the writ and, prior to making that decision, did not even request a response. *See Biomedino, LLC v. Waters Techs. Corp.*, 128 S. Ct. 653 (2007) (mem.). Finisar's factbound petition, too, should be denied.

III. Finisar Has Waived The Principal Argument In The *Aristocrat* Petition, And In Any Event The Arguments In That Petition Are Without Merit

Finisar does not appear to seek plenary review, but instead refers to the arguments made in a concurrently filed petition that presents a similar question. *See* Petition for a Writ of Certiorari, *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, No. 08-446. Indeed, Finisar would prefer that this Court grant the *Aristocrat* petition and then later dispose of Finisar's petition in light of a decision in *Aristocrat*. (Pet. 11, 22.)

Finisar's reliance on the *Aristocrat* petition is misplaced. The crux of that petition is the argument that an algorithm is not required for means-plus-function claims because means-plus-function claims are product claims that can only be satisfied by disclosure of "structure" or "material," not "acts," and an algorithm is not structure (or material). (Pet. in No. 08-446, at 16-21.) Finisar never made that argument in this case, and so it is waived for review here. (Indeed, for the reasons set forth by respondents in the Brief in Opposition in No. 08-446, the petitioner there also waived the argument by failing to offer it in the lower courts.) Because the argument appears for the first time in this Court, without the benefit of adversarial presentation or decision in the Court of Appeals or in either district court in the two cases, it would be inappropriate for this Court to "review" it either in this case or in No. 08-446. *See United States v. United Foods, Inc.*, 533 U.S. 405, 416-17 (2001) ("The Government's failure to raise its argument in the Court of Appeals deprived respondent of the ability to address significant matters that might have been difficult points for the Government."); *Youakim v. Miller*, 425 U.S. 231, 234 (1976) (per curiam) ("Ordinarily, this Court does not decide questions not raised or resolved in the lower court."). Moreover, if the petitioners are correct in their assertions that the validity of computer-implemented means-plus-function claims is not an uncommon issue (Pet. 20-21; Pet. in No. 08-446, at 28), then there should be ample opportunities to await a more appropriate case, one in which that argument was properly joined prior to its arrival here.

In any event, the argument is fatally flawed. For all of the *Aristocrat* petition's efforts seeking to contrast product claims with process claims, and "structure" and "material" with "acts," the argument hinges on the claim that an algorithm can never provide structure because an algorithm is an act, not a thing. (Pet. in No. 08-446, at 16-21.) An algorithm, however, in the context of a general-purpose computer, results in the structural definition of a thing—a special-purpose computer.

The other arguments in the *Aristocrat* petition, some of which overlap with Finisar's, are equally without merit for the reasons stated above and in the respondents' Brief in Opposition to that petition.

IV. Ongoing Proceedings Render This Case A Poor Vehicle For This Court's Review

Even setting aside the correctness of the Court of Appeals' decision, and its faithfulness to established law, the petition should be denied because of ongoing proceedings that may moot any determination by this Court.

First, the case stands in an interlocutory posture. In the judgment sought to be reviewed, the Court of Appeals remanded the case for a new trial, and the remanded proceedings are pending. This in itself is sufficient reason to deny the petition. *See, e.g., Va. Military Inst. v. United States*, 508 U.S. 946, 946 (1993) (Scalia, J., on denial of petition) (mem.); *Bhd. of Locomotive Firemen v. Bangor & Aroostook R.R.*, 389 U.S. 327, 328 (1967) (per curiam). Moreover, the proceedings on remand could moot any determination by this Court because, although the system claims at issue here are not directly involved in the remanded proceedings that concern method claims, the two sets

of claims are effectively identical—the patent similarly claims "systems and methods for scheduling transmission of database tiers upon specific demand or at specific times and rates of repetition." (Pet. App. 3a; *see also* Pet. 6-7.) For instance, both sets require an "information database" in which the information is "referenc[ed]" by a "set of indices" and "selected portions" are "schedule[d]" for "transmission" (such as by satellite or cable) and are in fact "transmitted," and ultimately each subscriber's device "download[s]" the particular information that it has requested. ('505 Patent at 17:68-18:36, 21:34-68.) If, as is likely, DIRECTV is found on remand not liable to Finisar for infringing the method claims (whether because DIRECTV does not infringe those claims or because they are invalid for their lack of novelty or obviousness—the independent invalidity grounds at issue there), that non-liability conclusion would likely apply to any similar system claims still at issue. If so, any determination by this Court on the indefiniteness question presented would have no practical effect—whether or not the Court sustained the indefiniteness ruling, DIRECTV would not be liable for infringing the similar system claims at issue here. In these circumstances, discretionary review is inadvisable.

Second, the validity of all claims at issue here is currently being reexamined by the PTO. *See* 35 U.S.C. §§ 302, 303 (permitting reexamination by the PTO where there is a "substantial new question of patentability"). The reexamination is focused on independent invalidity grounds (the same grounds of lack of novelty and obviousness that are at issue in the remand proceedings). Moreover, the PTO's conclusion thus far is that the claims are not

patentable because they lack novelty and are obvious. *See* Office Action in Ex Parte Reexamination, Nos. 90/008,282, 90/008,408, & 90/008,807 (Feb. 19, 2008). Should the PTO's conclusion of invalidity stand through the completion of the reexamination process, the claims will cease to exist, *see* 35 U.S.C. § 307(a), and that would make this Court's work nugatory. The Court should refrain from entertaining such a petition.

CONCLUSION

The petition should be denied.

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No. 08-445

IN THE
Supreme Court of the United States

FINISAR CORPORATION,

Petitioner,

v.

THE DIRECTV GROUP, INC., DIRECTV HOLDINGS LLC, DIRECTV ENTERPRISES LLC, DIRECTV OPERATIONS LLC, HUGHES NETWORK SYSTEMS, INC., AND DIRECTV, INC.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

REPLY TO BRIEF IN OPPOSITION

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REPLY TO BRIEF IN OPPOSITION

DIRECTV's brief provides no valid justification for the Federal Circuit's decision to contradict the plain language of 35 U.S.C. § 112 and to ignore its own settled precedents. Because the Federal Circuit's new rule indefensibly disrupts settled expectations of the inventing community, including expectations of the Patent Office, and because the question presented is an important and recurring issue, this Court should grant certiorari.

I. The Federal Circuit's "Algorithm" Requirement Contradicts The Plain Language of Section 112

DIRECTV begins its defense of the Federal Circuit's rule with the assertion that section 112, paragraph 6 "requires the patent's specification to describe *in sufficient detail* the structure designed to perform the claimed function." Opp. 2 (emphasis added). But that statutory provision says no such thing. Rather, it states:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover *the corresponding structure, material, or acts described in the specification* and equivalents thereof.

35 U.S.C. § 112, ¶ 6 (emphasis added).

The statute requires a means-plus-function element to be construed if there is "corresponding structure...described in the specification." Thus, it

only requires disclosure of *some* structure. It does not require any particular level of "detail," and it certainly does not require an "algorithm."

To revisit the example given in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 27 (1997), if a claim requires "means for connecting Part A to Part B" and if the specification discloses "a two-penny nail" as the connecting structure, the claim is not invalid merely because the specification omits further "details," such as the material from which the nail is made. Rather, the claim element covers any "two-penny nail" regardless of its composition.

In this case, there is no dispute that *some* structure is described in the specification. The '505 patent discloses a "CPU" executing "software," and the software is said to generate indices and embed those indices in a database. Pet. App. 35a-36a. DIRECTV concedes that a "CPU" is a general-purpose computer, Opp. 8, and a computer is undoubtedly a "structure." Indeed, when the "CPU" is programmed with "software" to perform the generating and embedding functions, it becomes a "special-purpose computer," which DIRECTV agrees is a "structure." *See* Opp. 7. As such, the requirement for some structure is met.

At one point, DIRECTV states that a general-purpose computer "has no well-known structure." Opp. 14. If that statement is meant to contend that computers are not well known or are not known to be structures, it is so far afield from reality that it cannot be taken seriously. On the other hand, if the statement means that details of a computer can vary from one computer to another, that fact is just as

irrelevant as the fact that details of "a two-penny nail" can vary from one to another.

To be sure, there is another paragraph of section 112 that could *potentially* require the disclosure of additional details, namely the *enablement requirement* found in section 112, paragraph 1. That provision requires sufficient disclosure "as to enable any person skilled in the art...to make and use" the invention. 35 U.S.C. § 112, ¶ 1. In other words, if a computer programmer would not know how to program a computer to perform a given function without disclosure of an algorithm, then a patent must disclose an algorithm. However, there is no genuine dispute that the enablement requirement is met here. DIRECTV makes much of the fact that the "specification merely repeats the claimed function," Opp. 9-10, but the evidence shows that this is sufficient information for an ordinary computer programmer. In other words, a programmer would know how to create software for a "CPU" to perform the "generating" and "embedding" functions based on this minimal disclosure.* Indeed, DIRECTV

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* As Finisar's petition explains, the record contains expert testimony to this effect. Pet. 8 (citing Dkt. Nos. 43, 67, 87). At one point, DIRECTV points to a declaration by another expert who opines that he "would not know how to build" the software necessary to generate indices. Opp. 11 (citing Dkt. No. 39). But DIRECTV neglects to inform the Court that this opinion relies on an unduly narrow interpretation of the term "generating," which DIRECTV later abandoned so that it could successfully prove lack of novelty for one of the method claims. *See* Pet. App. 10a, 23a-31a. As such, DIRECTV is judicially estopped from relying on this narrow interpretation, and the expert's declaration is not material. At most, the declaration would raise a genuine issue as to enablement, improperly resolved against Finisar on summary judgment.

concedes that the enablement requirement should not be "conflated" with the more stringent "algorithm" requirement that the Federal Circuit has now imposed for computer-implemented functions. Opp. 7-8.

Nor does the definiteness requirement found in section 112, paragraph 2 give rise to the Federal Circuit's stringent "algorithm" requirement. That provision only requires that patent claims "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2. Well-established precedent confirms that this is a requirement for *clarity*: "If the scope of subject matter embraced by a claim is clear..., then the claim does particularly point out and distinctly claim the subject matter which the applicant regards as his invention." *In re Borkowski*, 422 F.2d 904, 909 (CCPA 1970); CHISUM ON PATENTS § 8.03[2] ("Definiteness means that the language of the claims must clearly set forth the area over which the applicant seeks exclusive rights."). In contrast, the Federal Circuit's new "algorithm" requirement does not seek to *clarify*, but to limit the *breadth* of computer-implemented claim elements. DIRECTV provides no rebuttal to the well-established principle that "breadth is not to be equated with indefiniteness." *In re Miller*, 441 F.2d 689, 693 (CCPA 1971).

In summary, in requiring an "algorithm" for all computer-implemented functions, the Federal Circuit has grafted a "sufficient detail" requirement onto section 112 that is more stringent than the enablement requirement found in paragraph 1, more stringent than the definiteness requirement found in

paragraph 2, and more stringent than the structure requirement found in paragraph 6. This disregard for the plain language of section 112 cries out for correction.

II. DIRECTV's Justifications For The Federal Circuit's Rule Do Not Withstand Scrutiny

Unsupported by the plain language of section 112, DIRECTV attempts to justify the Federal Circuit's rule by reciting various policy considerations. But the policies to which DIRECTV appeals are inapplicable.

First, DIRECTV implies that the Federal Circuit's "algorithm" requirement is necessary to prevent a means-plus-function element from covering "any and all later inventions...that perform that function." Opp. 3. This was the reasoning relied on below. Pet. App. 37a (alleging "pure functional claiming").

That reasoning is faulty. As long as there is *some* structure disclosed in the specification, the claim element *is* limited (by operation of section 112, paragraph 6) so that it does not cover all structures that perform the function, but only "the corresponding structure...described in the specification and equivalents thereof." There is no further need for an "algorithm" to achieve this limitation. Here, a "CPU" is disclosed for performing the claimed functions, and therefore the claim element does not cover *all* structures for performing those functions, but only a CPU "and equivalents thereof."

Second, DIRECTV contends that an "algorithm" must be required "so that the patent does not occupy

more of the field of art than what has truly been invented." Opp. 3. The first flaw in this contention is that it ignores the statutory scheme that Congress has already designed for addressing that concern. As previously explained, the existing statutory requirements of novelty, nonobviousness, and enablement already ensure "that the patent does not occupy more of the field of art than what has truly been invented." *See* Pet. 3-4, 13-14. The Federal Circuit's "algorithm" rule improperly legislates additional requirements into that scheme.

The second flaw in DIRECTV's contention is that it mistakenly assumes that "what has truly been invented" always has something to do with an algorithm. But it may well be that an algorithm is not important to the invention. In other words, the novelty of a claimed combination may arise from other elements in the claim or from the claimed combination as a whole, and not from any particular algorithm. Thus, it does not matter that a means-plus-function element may be broad enough to cover a computer using any well-known algorithm to perform the claimed function. As this Court recently explained, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 127 S.Ct. 1727, 1741 (2008).

That principle is true here. The claim is for "[a]n information transmission system" consisting of a combination of multiple elements, and the means-plus-function element is merely one element in that combination. Pet. App. 35a, 43a-44a. The claim also requires computer memory devices, a database, a

transmission scheduler, a transmitter, subscriber stations, and data filters, all interrelated in specified ways. '505 Patent at 17:68-18:36. The particular algorithm used by the CPU to generate indices and embed them in the database does not matter. The invention is the novel combination of *all* of the elements. Thus, there is no need for disclosure of a specific "algorithm" to ensure that the claim covers "what has truly been invented."

Third, DIRECTV asserts that an "algorithm" should be required because otherwise, "the public cannot possibly know what is being claimed by the patentee." Opp. 8. That assertion is also false. When, as here, the structure for performing the claimed function is clearly identified, it is quite clear "what is being claimed by the patentee." The claim element covers a "CPU" performing any algorithm that carries out the claimed function. There is nothing unclear about it. By analogy, there is nothing unclear about a claim element that covers any "two-penny nail," even though a nail could be made from a variety of materials.

III. The Federal Circuit's Rule Is Refuted, Not Supported, By Longstanding Precedent

DIRECTV contends that the Federal Circuit's rule "adhere[s] to long-established law." Opp. 12. That contention is false.

Incredibly, the "well-established precedent" to which DIRECTV refers includes the *Aristocrat* decision, Opp. 5, which was only *three weeks old* when the Federal Circuit decided the present case and which is now the subject of a companion petition before this Court in No. 08-446. The other four cases

cited by DIRECTV (dating back to only 1999) stand merely for the proposition that when an algorithm *is* disclosed, the "corresponding structure" is "'not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.'" Opp. 6 (quoting *WMS Gaming, Inc. v. International Game Technology*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)). None of the four cases holds that an algorithm is *required*.

Instead of supporting DIRECTV's arguments, longstanding precedent directly repudiates them. As mentioned above, DIRECTV argues that section 112, paragraph 6 imposes a more stringent "sufficient details" requirement than the enablement requirement in section 112, paragraph 1. Opp. 2-11. But well-established precedent holds that paragraph 6 "does not add any additional description requirement to that set forth in the first paragraph of the section." *In re Knowlton*, 481 F.2d 1357, 1366 (CCPA 1973); *accord* CHISUM ON PATENTS § 8.04[2][d ("[T]he last paragraph imposes no higher standard of adequate disclosure than that otherwise required by the first paragraph of Section 112.").

DIRECTV also suggests that the definiteness requirement in section 112, paragraph 2 (as applied in the means-plus-function context) might be the source of the more stringent "sufficient details" requirement. Opp. 2-11. Well-established precedent repudiates that position as well: As long as the claimed function(s) themselves are not unclear, an indefiniteness rejection of a means-plus-function element "cannot stand where there is adequate description in the specification to satisfy 35 U.S.C.

§ 112, first paragraph." *In re Noll*, 545 F.2d 141, 149 (CCPA 1976).

DIRECTV attempts to distinguish the Federal Circuit's precedents involving computer-implemented functions as "fact-intensive inquir[ies]." Opp. 12-14. But whatever the facts, it is clear that the *law* applied in those cases was not DIRECTV's "sufficient details" standard or the Federal Circuit's new "algorithm" rule. In *Noll*, the word "algorithm" does not appear, and the court expressly rejected an argument that the specification must "disclose the detailed internal structure of the computer as programmed." 545 F.2d at 149. In *Dossel*, the court went out of its way to state that the specification "does not disclose exactly what mathematical algorithm will be used." 115 F.3d 942, 946 (Fed. Cir. 1997). Nor does DIRECTV provide any reason to ignore two precedential characterizations of *Dossel* as a case involving a general-purpose computer without any particular algorithm. *See* Pet. 19 (citing *Intel* and *Personalized Media*).

In summary, the Federal Circuit's new rule improperly upsets the "settled expectations" set by its past precedents. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S 722, 739 (2002).

IV. DIRECTV's Procedural Arguments Provide No Justification for Denying Certiorari

Significantly, DIRECTV does not dispute that the question presented here and in the *Aristocrat* case is a recurring and therefore an important one. *See* Opp. 15. However, DIRECTV argues against granting certiorari for procedural reasons.

DIRECTV first asserts that certiorari should not be granted in this case because it "stands in an interlocutory posture." Opp. 16. This is true only in the sense that there are *other* claims of the '505 patent involved in remand proceedings. The claims at issue here have been finally held invalid. No remand was ordered for them. Pet. App. 34a-37a.

DIRECTV further argues that the *other* claims on remand *may* be found to lack novelty or nonobviousness, that those claims are "effectively identical" to the claims here, and that such a finding for those claims "would likely apply" to these claims. Opp. 16-17. This Court should not countenance such bald speculation, nor such gross generalizations. "Each claim of a patent...shall be presumed valid independently of the validity of other claims." 35 U.S.C. § 282.

DIRECTV also argues against granting certiorari in this case because the '505 patent is currently being reexamined by the Patent Office. Opp. 17-18. Ironically, the reexamination of the '505 patent only further demonstrates how disruptive the Federal Circuit's new rule is.

Over twelve years ago, the Patent Office promulgated guidelines "to assist Office personnel in the examination of applications drawn to computer-related inventions." 61 Fed. Reg. 7478, 7479 (Feb. 28, 1996). Significantly, those guidelines expressly approved means-plus-function elements covering the "well-defined structure of a computer" or "[a] programmed computer with particular functionality implemented in hardware or hardware and software." *Id.* at 7486.

In 2000, the Patent Office promulgated additional guidelines for analyzing means-plus-function elements. 65 Fed. Reg. 38510 (Jun. 21, 2000). One of those guidelines further repudiates the Federal Circuit's position here: "35 U.S.C. 112, ¶ 6 does not impose any requirements in addition to those imposed by 35 U.S.C. § 112, ¶ 1." *Id.* at 38514. That guideline remains in force at the Patent Office today. MANUAL OF PATENT EXAMINING PROCEDURE § 2181 (8th ed., Rev. 7, July 2008), *available at* http://www.uspto.gov/web/offices/pac/mpep/mpep_e8r6_2100.pdf. So also are guidelines explaining that structure need only be disclosed "in a way that one skilled in the art will understand what structure...will perform the recited function" and that "[b]readth of a claim is not to be equated with indefiniteness." *Id.* at § 2181, § 2173.04.

Given these guidelines, the Patent Office has had no difficulty in the reexamination applying the plain language of section 112, paragraph 6 to the claims at issue here. It has *not* found the claims to be indefinite. The fact that the Federal Circuit's new rule is completely contrary to the Patent Office's longstanding view of the law only further demonstrates that the new rule will disrupt "the settled expectations of the inventing community." *Festo*, 535 U.S. at 739. Indeed, in light of the Patent Office's longstanding guidelines, it may be wise for this Court to request the views of the Solicitor General on the question presented.

DIRECTV asserts that the Patent Office *may* ultimately conclude in the reexamination that the claims at issue here are invalid for lack of novelty or for obviousness. Opp. 17-18. That assertion is mere

speculation. This Court's decision on certiorari should not be based on what the Patent Office *may* do. Moreover, any final decision will not be reached until after a lengthy appeal process. 35 U.S.C. § 307(a). The more relevant observation is that if this Court denies certiorari, the Patent Office will be forced to defer to the Federal Circuit's erroneous rule.

Of course, as Finisar stated in its petition, the most efficient course would be to grant certiorari in the *Aristocrat* case and to hold the petition here pending that decision. In that scenario, all of the "vehicle" arguments addressed above evaporate. DIRECTV argues that Finisar's petition does not deserve to be held pending the *Aristocrat* case, asserting that the "crux" of Aristocrat's petition is an argument Finisar has not made. Opp. 15. But the argument to which DIRECTV refers is merely the first argument made in Aristocrat's petition, not the "crux" of that petition. Pet. in 08-446 at 16-21. Aristocrat's second argument is precisely the argument that Finisar has advanced here and throughout this case. *Id.* at 21-24. The questions presented are the same.

Finally, DIRECTV suggests the Court should wait to address the question presented in either the *Aristocrat* case or this case until there is an inter-circuit conflict. Opp. 11-12. That suggestion rings hollow in light of the Federal Circuit's near-exclusive jurisdiction over patent matters, 28 U.S.C. §§ 1295(a)(1) & (a)(4), and the disruptiveness of the Federal Circuit's erroneous new rule.

CONCLUSION

This Court should grant certiorari and reject the Federal Circuit's rule requiring an "algorithm" for computer-implemented functions.

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